MAYO CLINIC
LIBRARY
ROCHESTER, MINN.

Rorschach Research Exchange

and

Journal of Projective Techniques

The Logan Bindery, 502 N. Prior Ave., St. Paul, Minn.

PUBLISHED BY
THE SOCIETY FOR PROJECTIVE TECHNIQUES
AND RORSCHACH INSTITUTE, INC.

Volume XIII 1949 No. 1

81482

PUBLIC LIBRARY

RORSCHACH RESEARCH EXCHANGE
AND
JOURNAL OF PROJECTIVE TECHNIQUES

VOL. XIII 1949 No. 1

* * *

EDITOR

BRUNO KLOPFER

EDITORIAL ASSISTANT

WINAFRED B. LUCAS

ASSOCIATE EDITORS

MARGUERITE R. HERTZ
WALTER JOEL, *pro tem*
MORTIMER M. MEYER, *pro tem*
MIRIAM SIEGEL
EDWIN S. SHNEIDMAN, *pro tem*

ADVISORY BOARD

ELIZABETH ANDERSON
SUSAN DERI
FRANKLIN G. EBAUGH
LAWRENCE K. FRANK
MAX L. HUTT
NOLAN D. C. LEWIS
KAREN MACHOVER
GARDNER MURPHY
LOIS B. MURPHY
L. JOSEPH STONE
FREDERICK WYATT

* * *

OFFICERS OF THE
SOCIETY FOR PROJECTIVE TECHNIQUES
AND
RORSCHACH INSTITUTE, INC.

President: Theodora M. Abel
Vice President: Solomon Machover
Secretary: Michael B. Dunn, *pro tem*
Treasurer: E. Louise Gaudet, *pro tem*

TABLE OF CONTENTS

Editorial 3

Symposium on a "Basic Rorschach Score" 6

Rorschach Standardization Studies, No. 1 — A Review
William Marshall Wheeler 6

Personality Integration Levels
Charlotte Buhler 9

Panel Discussion
Harry M. Grayson 13
Mortimer M. Meyer 15
William Marshall Wheeler 16
S. M. Wesley 19

Replies to Panel Discussion
Charlotte Buhler and D. Welty Lefever 20

Analysis of Group Rorschachs of Biologists
Anne Roe 25

Further Studies of "Suicidal" Configurations in Rorschach Records
Marguerite R. Hertz 44

General Reviews and Summaries

Recent Developments in the Field of Projective Techniques
Samuel B. Kutash 74

Book Reviews and Brief Reports

A Projective-Motor Test for Personality Analysis
Maurice Rapkin and William Marshall Wheeler 87

Announcements

Annual Meeting 92
Summer Workshops 93

EDITORIAL

Beginning with the 1949 volume of this journal the editors are planning the following composition for each of the quarterly issues:

1. RESEARCH CONTRIBUTIONS. With the publication of the symposium in this issue we are reviving a tradition of presenting basic but controversial issues in the field of projective techniques, a prominent editorial policy in the first few volumes of the "Rorschach Research Exchange." The discussion of the "Basic Rorschach Score" deals with the role of quantification and standardization in the field of projective techniques. Subsequent publications will continue this series of presentations by investigating other basic issues, such as the role of projective techniques as diagnostic adjuncts versus their role in revealing personality dynamics regardless of diagnostic labels.

Among other original contributions are an increasing number of dissertations due to the training programs in clinical psychology sponsored by the Veterans Administration and the United States Public Health Service. These dissertations present special editorial problems which will be discussed later.

Otherwise we hope to provide our readers with as varied a selection of research contributions as possible. This section will continue to constitute the main part of the Journal.

2. GENERAL REVIEWS AND SUMMARIES. The survey article which opens this section in the current issue will be followed in the second issue by a summary of "art techniques" and a review of schizophrenia research.

3. BOOK REVIEWS AND BRIEF REPORTS. This section will review important books or reports describing new techniques (published or in an exploratory stage) or present brief preliminary reports about research projects or minor experimental studies of less than ten pages in length, such as the report in this issue on a new projective motor test. In the next issue Roy Schafer's book *The Clinical Application of Psychological Tests* will be reviewed and some brief reports will be presented.

4. CASE STUDIES. This section will present studies of individual cases and groups of cases illustrating the use of projective techniques in conjunction with other psychological tests. They will include the test raw data, the processing of the data, the interpretation of the results, and validating material. These case studies will have particular value for training purposes and will form a "case book" in the course of years. Included will be clear-cut cases characteristic of traditional clinical entities, cases of special interest from the point of view of diagnosis or psychotherapy, and non-clinical cases valuable from a psycho-dynamic point of view.

This section will open in the second issue of 1949 with the publication of a comprehensive projective battery which forms the basis of the symposium discussion at the annual meeting in Denver in September (described in the announcement section of the current issue). The interpretations of this material to be presented at the Denver meeting will be published in the following issue.

5. NEWS LETTER SECTION. This section will seek to provide an easily accessible means of communicating informal and tentative notes about planned or on-going researches or interesting observations among groups of clinicians who are especially interested in developing various projective techniques. Its function will be similar to that which the *Rorschach Research Exchange* fulfilled in its early issues.

Thematical Apperception Test (TAT). We feel fortunate in being able to announce that publication arrangements have been completed by this journal with the group publishing *The TAT Newsletter,* represented by Dr. Robert R. Holt, Editor, The Menninger Foundation, Topeka, Kansas. The arrangements contain the following specific points:

(1) That the editorial arrangements of the *TAT NL* which exist at present remain unchanged. All materials intended for the *TAT NL* should be sent to Dr. Holt, who will also remain in complete charge of all other dealings with his subscribers.

(2) That no pressure be exerted on subscribers of the *TAT NL* to subscribe to this journal. We offer to make reprints of the *TAT NL* section for all subscribers of the *TAT NL* who are not subscribers to this journal. The financial arrangements between the *TAT NL* and this journal are planned so that there will be no need to raise the present subscription rate of the *TAT NL.*

(3) That account be taken of any other requirements of the *TAT NL* that are in general agreement with the policy of this journal.

We are convinced of the reciprocating benefits of this arrangement and of its advantages to clinical psychology.

Make A Picture Story (MAPS) Test. A group of clinical psychologists and psychiatrists especially interested in the diagnostic and therapeutic uses of the Make A Picture Story (MAPS) test plan a newsletter section on the MAPS test. Items relating to the use of this test are requested and should be addressed to Dr. Edwin S. Shneidman, 1323 West Vernon Avenue, Los Angeles 37, California.

Individuals or groups interested in other projective techniques are invited to use the News Letter section for their own purposes.

6. ANNOUNCEMENTS. This section is meant primarily for official announcements of the Society for Projective Techniques and Rorschach Institute, its officers, and committee chairmen. It will

also publish further news items of interest to members and subscribers. Items intended for publication should be submitted to the editorial committee at least one month before the editorial deadline (January 15 for the March issue, April 15 for the June issue, July 15 for the September issue, and October 15 for the December issue).

•

EDITORIAL POLICY QUESTIONS

Two questions will be submitted to a vote by the membership of the society during the tenth annual meeting of the Society for Projective Techniques on September 9th and 10th at Denver, Colorado.

(a) Whether or not to shorten the present title from *Rorschach Exchange and Journal of Projective Techniques* to the more comprehensive *Journal of Projective Techniques.* This proposed change would also have the advantage of giving equal billing to the various projective techniques.

(b) Whether or not to include a special section on dissertations, as briefly indicated above. Most dissertations routinely contain rather extensive historical and methodological sections. These sections rarely offer sufficient original material to warrant inclusion in the "Research Contributions" section of this journal. However, some universities insist on an unabridged publication of the dissertation and some candidates may prefer to have their dissertations published *in toto.* In fairness to both the authors and the readers, we would suggest an arrangement be established whereby such dissertations be published in a special appendix to the journal and the author and the Society share the expense.

Symposium On A "Basic Rorschach Score" *

The symposium on the "Basic Rorschach Score" was based on a publication *Rorschach Standardization Studies, Number 1: Development of the Basic Rorschach Score with Manual of Directions* by Charlotte Buhler, Karl Buhler, and D. Welty Lefever, 1948.** In order to facilitate the understanding of the issues discussed in the symposium by readers not acquainted with the publication, we are inserting at this point a brief review of this publication which was originally written for our "Notes and Reviews" section by one of the panel members (Wheeler).

This study is the preliminary, mimeographed form of the first in a series planned to quantify aspects of the Rorschach test. As the title indicates, the major purpose of this volume is to present data and results relative to one method of standardizing the test. More specifically the volume is concerned with the establishment of a basic Rorschach score. It would be misleading, however, not to emphasize that the endeavor of the present volume has been extended to permit hypotheses concerning certain Rorschach indices on a more firm basis than was previously possible. The study is based upon a total of 518 cases including normal, psychopathic, neurotic, organic and psychotic groups.

TABLE OF CONTENTS

PART I – Problems, Findings, and Theoretical Conclusions
1. What Does the Rorschach Measure?
2. History of the Present Study
3. The Problems of a "Normal" Group
4. Introduction of the Rorschach Sign List
5. Introduction of the Basic Rorschach Score and of the Integration Levels
6. Introduction of the Mean Sign Scores
7. Definitions and Psychodynamics of Rorschach Signs
8. Interpretation of Integration Levels

PART II – Manual of Directions
9. General Principles
10. Instructions for Administering the Rorschach
11. Instructions for Scoring
12. Instructions for the Use of the Sign List and for Obtaining the B R-Score
13. Instructions for Interpreting the Integration Levels
14. Sample Case

PART III – Statistical Development of the Basic Rorschach Score
15. Empirical Development of a Scoring Key
16. The Reliability and Validity of the Basic Rorschach Score
17. Variance Analysis of the Individual Rorschach Signs
18. Statistical Summary

---

* Presented at a meeting of the Southern California Division of the Society for Projective Techniques on February 8, 1949.

** Distributed by Charlotte Buhler, 4759 Hollywood Boulevard, Los Angeles, California.

DIAGNOSTIC RORSCHACH SIGN LIST

Name:
Sex: Age: Occupation:

Ref. No.:
Date:
Scored by:

Diagnostic statement:

B.R. +	B.R. −	Wts.
	3	1---R=24-
3		2---R=25+
	3	3---Rejection
	2	4---T=30"+
	3	5---M=0 to 1
	1	6---M=1 1/2 to 2
1		7---M=2 1/2 to 3 1/2
3		8---M=4+
	3	9---FM=0 to 1
2		10---FM < M
	1	11---FM=M, less twice M
	2	12---FM twice+M
	2	13---C to 1/2 m
2		14---C 1 to 2 1/2 m
	1	15---C 3+m
		16---(k+K) absent
1		17---C 1/2 to 1 1/2 (k+K)
	1	18---C 2+ (k+K)
	1	19---FK absent
1		20---C 1/2 to 2 1/2 FK
	1	21---C 3+FK
	3	22---F%=20-
3		23---F%=21 to 40
2		24---F%=41 to 50
	3	25---F%=51 to 75
	4	26---F%=76+
	4	27---Fc absent
1		28---Fc=1/2
2		29---Fc=1 to 5 1/2
1		30---Fc=6+
	1	31---c=Fc
	1	32---c=3+
	2	33---C' absent
2		34---C' present
	1	35---Total shades=20%-
	3	36---FC absent
	2	37---FC%(CF+C)
2		38---FC > (CF+C)
	1	39---(CF+C)=3+
	3	40---Sum C=2 1/2-
3		41---Sum C=3+
		42---C--Cards T 10"- different from B=Cards
	1	43---C--Cards T 10"+ different from B=Cards
		44---CR=25%-
		45---CR=26 to 40%
		46---CR=41%+
		47---Sum C = M(Extroversion)
		48---W%=20%-
		49---W%=21 to 30%
	1	50---W%=31%+
		51---W:M=1:1 or more M
1		52---W:M=2:1
	1	53---W:M=3:1 or more W

B.R. +	B.R. −	
	1	54---D → W
		55---D%=45-
		56---D%=46 to 55
	1	57---D%=56+
	1	58---d%=15+
		59---Dd%=0 to 25
		60---Dd%=26+
		61---dd present
		62---di present
		63---S=1/2 to 3
	1	64---S=3 1/2+
	1	65---A%=20-
		66---A%=21 to 45
	1	67---A%=46+
	1	68---To:De=1:1+
	1	69---To:De=2:1
		70---To:De=3+:1
	2	71---P=4-
	1	72---P=5+
	1	73---F-=1 to 2
	3	74---F-=3+
	1	75---3 Repetitions
	3	76---5+ Repetitions
	3	77---Confabulation, contamination, references
		78---Symbolism
	1	79---Color names, ink, smears, spilled paint, mud
	1	80---Blood, fire, smoke
	1	81---Explosions, eruptions
	1	82---Clouds, X-rays, rocks, shadows
	1	83---3+At, human insides, animal bones
	1	84---Geo=3+
		85---Sex
	1	86---3+ fighting people or animals
		87---Ice, snow
		88---Eyes as separate items
		89---Food
	1	90---Emblems and masks
	1	91---3+ Caricatures, Disney or fairy-tale fig.
	1	92---3+ monuments or statues
	2	93---3+ dead, injured animals, corpses, snakes, spiders, gorillas, monsters, ghosts, or frightening fantasy figures, diseases
	3	94---3M or more + Sum C 3 or more
	2	95---11 (12) + 22 (24,25,26) + 37
	1	96---11 (12) + 13
	2	97---14+17+20
	1	98---15+18+21
	1	99---11 (12) + 38
	5	100 --7 (8) + 27
	5	101 --7 (8) + 74
	5	102 --7 (8) + 77

+ TOTAL					
− TOTAL					
B.R. TOTAL	+16+	0 to +15	0 to -15	-16-	
B.R. LEVEL	I	II	III	IV	

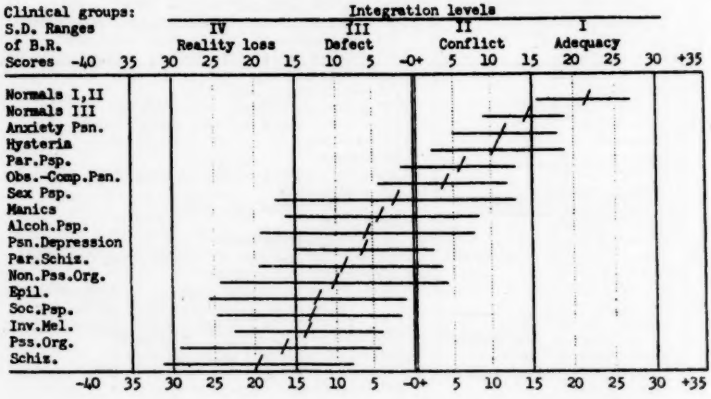
Copyright 1948, by Buhler-Lefever, RORSCHACH STANDARDIZATION STUDIES

The central method of quantifying the test data has been to study certain signs in terms of their relative incidence in the several groups. The signs themselves are of various sorts including the number of responses given, the relative proportions of certain determinants, and the presence of confabulation, contamination or personal reference.

An overall score, the "Basic Rorschach Score" taken as an index of total personality integration level is the final result of algebraically summing the weighted signs. The weighing of each of these signs was determined on the basis of a careful analysis of their levels of statistical significance in differentiating the clinical groups. The method permits an interpretation of the score and constellations of individual signs in terms of the clinical characteristics of the group. The statistical procedure has been so carefully elaborated as to serve as a model for the presentation of similar data and should be clear to anyone with elementary statistical training.

The final result of this statistical procedure is the following distribution of integration levels among the various clinical groups from which the material for the study was taken.

MEAN BASIC RORSCHACH SCORES AND STANDARD DEVIATIONAL RANGES FOR SINGLE CLINICAL GROUPS



The study assumes an additional significance because of the logic which has been used in the development and further interpretation of each of the derived scores. Chapters 7 and 8, "The Definition and Psychodynamics of Rorschach Signs" and "Interpretation of Integration Levels" represent a most convincing presentation of the results of this logical procedure. These two chapters should be of immediate value to both clinical and research psychologists who are interested in the Rorschach test. In its broader aspects the study must be considered as a real contribution to the understanding of personality structure and dynamics.

The main hypothesis contained in *Standardization Studies, Number 1* was presented to the symposium by one of the three authors in the following paper:

•

PERSONALITY INTEGRATION LEVELS

By CHARLOTTE BUHLER, PH.D.*

The different approaches used in the handling and interpretation of Rorschach material involve a number of different issues. Whether it is possible, reliable and profitable to quantify the Rorschach is only one aspect of the larger and fundamental problem of how personality is best understood.

The whole idea of a Rorschach standardization is nonsensical to those who, with Lawrence K. Frank, feel that *personality can be understood only as a "unique, individual process,"* and that the main purpose of a projective technique is to evoke some "expression of the patient's private world" and personality process. Hence, standardization of a projective technique becomes an "anachronism" and its reliability becomes "a matter of determining, of recognizing, repetitive patterns in the individual's self-expression."

To debate this theory in its extreme form, with its assumption that group data are meaningless for the understanding of the individual, would lead far beyond the frame of this evening's discussion. It must suffice to say the following. Frank's theory restates in new form distinctions between *understanding* and *explaining psychology* made by Dilthey and Spranger. These authors were the first to call attention to the unique structure of the individual personality which demanded a special scientific approach. Gestalt psychology succeeded subsequently in demonstrating scientific methods by means of which such a structure could be identified reliably. The Gestalt pattern idea was applied in projective technique studies which attempted to identify personality structure. Such studies fell far short of establishing sufficiently comprehensive and reliable personality identification. Even when more comprehensive, these techniques will need to be supplemented by group comparisons, since the understanding of the individual as a member of groups will always be of importance.

Although the *therapist* of our time and the *historian* of Dilthey's time base their work on their insight into the individual structure of personality dynamics, the *diagnostician* needs group comparisons

* Assistant Clinical Professor of Psychiatry and Neurology, School of Medicine, University of Southern California.

for classifying, evaluating and prognosing a case. The diagnostician, as well as the student of human behavior in general, will always have to utilize group characteristics of the individual.

The Rorschach is among the rare techniques which afford both types of information. It allows for dynamic interpretations of *unique features* by means of the content and its sequence, but it also allows for a type of *group comparison* that leads to new and unexpected results.

The Rorschach is the first instrument of its kind which has been used with surprising success for *clinical diagnosing*. Such diagnosing is done by inference from personality characteristics as they seem related to different clinical pictures. This means that apart from any individual personality expression, the Rorschach response material *contains the type of information needed for clinical diagnosing*. What type is this?

To begin with, information needed for diagnosing consists of numerous single data on physical and mental, present and previous conditions. The diagnostician has to integrate all these data into the picture of an illness. That is to say, the data are considered constituent features in the total structure of the illness. This structure of a mental illness is understood to result from basic disturbances of personality integration. Three basic disturbances of personality integration have been demonstrated in psychiatry, two which Freud showed, namely inability to accept *reality* and inability to resolve *conflict*, and a third one which was always recognized, namely disabling *defect*.

In final analysis, different mental illnesses represent differently-structured and differently-conditioned reaction patterns under the influence of these three disabling factors: reality demands, conflict, defect. When we attempted our Rorschach standardization, we did not expect to have findings that could be related to such basic psychological facts. But when attempt was made to relate our findings to the task of *diagnosing*, we found that the data could be interpreted in terms of disintegration, corresponding to the psychological structure of conflict, reality loss and defect patterns. Before we define these, it seems indicated to give a brief resume of the studies and findings in which Dr. D. W. Lefever, Dr. K. Buhler and I collaborated.* Briefly, these studies consist of the following.

Approximately 500 psychiatrically-diagnosed cases from 15 clinical groups, collected over a period of four years, were studied and compared for sign distribution after they had been scored according to Klopfer's rules. As potential signs, all scoring categories listed by Klopfer were registered, and a few new signs we added. The study was limited to objectively-definable signs. Two groups of so-called

* "Rorschach Standardization Studies – I." Mimeographed private edition, Los Angeles, 1948. Revised edition, 1949.

Normals were defined by means of a rating procedure. The tentative assembling of such a group of so-called Normals in no way influenced the statistical procedure, yet it proved to be a helpful device for comparison purposes.

The original intention of the study had been to establish sign patterns for clinical group diagnosis. In the course of this work, we became aware of the linear distribution of many signs which showed a definite increase or decrease from better-adjusted to the most maladjusted clinical groups. Dr. Lefever felt that this distribution was a good basis for assigning positive and negative weights to these signs. The total of positive weights from which the negative total was deducted led in each case to a figure which might, if our hypothesis was correct, represent something like a total adjustment measure.

As the individual and the clinical group distributions of this figure looked encouraging, Dr. Lefever studied it systematically and arrived at figures which distributed approximately between −30 and +30. By arbitrarily using the zero point as the dividing line, and by subdividing the + and − scores at the mid-point, we obtained four score levels. Then we proceeded to study the distribution of these scores, called *Basic Rorschach Scores,* of all cases assembled in clinical groups in relation to the four score levels we obtained before. To our agreeable surprise we found that the means and standard deviations of the clinical group BR Scores distributed in a psychologically-meaningful way.

Further study was made of the sign distributions on the four levels; the patterns of highest and lowest signs on each level were interpreted. In doing so, we found empirically that the prevalence of *signs of conflict* was evident on level II of signs which can be interpreted as indicative of *defect* on level III, of signs indicative of *reality loss* on level IV, while level I predominated in signs favorable to personality *integration.*

We considered then the four BR Score levels tentatively as personality integration levels and called them level of adequacy, of conflict, of defect and of reality loss.

If the hypothesis is correct, the individual case should, in its sign distribution, corroborate these general findings. We are in the process of checking our hypothesis in individual cases and of comparing our level classification with the psychiatric diagnosis.

The logical questions at this point are: (1) How do we define, in Rorschach terms, patterns of conflict, of reality loss and of defect, and (2) How do we define defect at all.

We cannot in the time available recapitulate the development of sign definitions, discussed in detail in our Chapter VII. It must suffice to say that every possible definition for single signs was tested carefully in studying the standard deviational position of each sign in each clinical group.

After sign definitions were obtained from clinical group comparisons, we applied these definitions in the analysis of integration levels.

Beginning with level II, we find here the peak of uncontrolled emotionality (CF+C), the peaks of anxiety (K+k), insecurity (c), unsatisfied instinctual drive in proportion to deferred goals (FM:M), disregard of reality (low F%). This pattern expresses the *conflict between tendencies toward immediate satisfaction and tendencies toward deferred satisfactions, which is the basic neurotic conflict.*

Conflict culminates and remains unresolved on level II, while it is resolved in opposite ways on levels I and III.

On level I, we find control over goals (M>FM), control over emotionality (FC>CF+C), consequently less anxiety (K+k), but considerable tension (m).

On level III, goal deferment is abandoned (M low), drive rules (FM) without anxiety (K+k) in a stereotyped manner (A%). Emotional responsiveness is defective, out of proportion or excessive (ΣC low).

On level IV, the problem no longer exists. All striving appears in regression below the conflict level. The conflict between immediate and deferred satisfaction is replaced by much more severe problems, *the problem of reality awareness and reality acceptance,* and the *problem of coordinating goals, executive functions and reality demands as they are perceived.*

This level IV problem is represented in the complete disproportion of executive tendencies (W) with the actually existing needs (FM) and goals (M). Reality is inaccessible (F% excess) and often wrongly perceived (F−). Social contact (Fc) and self-appraisal (Ks, FK) are lost or very reduced.

Before discussing variations from this picture obtained by comparing means, we must clarify briefly our definition of *defect.* It is defined as the organic defect which prevents functional coordination and consequently personality integration. I expect that the psychogenetically-oriented psychologists will admit to this category only our strictly defined cases with organic damage. I think, however, that at the present time it is a matter of debate and of opinion whether the other clinical groups whose BR Scores fall into this level are or are not of *constitutionally defective variants.* That is to say, we think of the level III group as individuals with defective equipment (native or acquired) who, in Franz Alexander's schematic picture of maladjustment, due either more to constitutional or more to environmental causes, would fall into the first third of his sections.

A problem arises out of the fact that certain individual variants and many individuals do not fulfill the demands of the defined pattern. We have quite a number of cases whose sign patterns or BR

Scores seem problematic. They cause difficulties which have to be expected in view of the complication of all the factors involved. I do not think that these deviant cases undo the basic truth of our findings in general. Even if used only as a guiding principle, the four-level theory seems helpful, since it assists in clarifying and organizing an immensely variable and complicated material. I consider it an important advantage that this organization of the clinical material could be based on the Rorschach's own merits, on its basic inner structure, without borrowing from other sources of information. Especially if the theory is not used dogmatically, but as an explorative device and as the first step before further individual study and interpretation of each case takes place, it will, I hope, prove to be a helpful means of first orientation.

●

PANEL DISCUSSION

HARRY M. GRAYSON, PH.D.*: I have been asked to discuss this evening's report from the point of view of the quantative treatment. Before doing so, however, I wish to congratulate Drs. Buhler and Lefever on a remarkably good job in a complex and intangible area. The Rorschach test, because of its very virtue in yielding a global, sub-surface personality description, has been relatively impervious to adequate quantitative research investigation. It has been viewed, therefore, with extreme skepticism on the part of many psychologists and others who pride themselves on their strictly scientific attitude. A brief quotation from a recent text illustrates this point of view:

> "Opinion regarding the value of the Rorschach test in its orthodox form is sharply divided. To many Rorschach experts, this test seems to fulfill in the realm of psychology the functions which in physics fall to the cyclotrone, the Wilson cloud chamber, the thermionic valve, and the spectroscope all in one; in other words, the test is used for a great variety of disparate measurements which make it seem likely that if any of the fields is accurately covered by the test, none of the others can very well be so covered. To many more cautious psychologists, the test appears as one whose reliability is known to be low, whose validity has never been established with regard to most of the claims made in its favor, and whose subjective nature does not attract the scientific worker." (Eysenck, H. J. *Dimensions of Personality*, 1947)

It is undoubtedly true that, in a global personality description as derived from a test like the Rorschach, some facets of the per-

* Chief Clinical Psychologist, Veterans' Administration, Brentwood Hospital, Los Angeles, California.

sonality are more accurately described than others. The validity of our interpretations, for example, and the degree of confidence we have in them, are probably not the same for all determinants or determinant patterns. However, it has been extremely difficult, if not impossible, to disentangle the determinants for specific study without distorting the personality configuration. I believe that it was this lack of an adequate research tool, rather than the limitations of the instrument itself, that made previous attempts at evaluation of the Rorschach so often prove disappointing. This study by Drs. Buhler and Lefever is probably the most systematic exploration of the Rorschach test that has as yet been attempted, and should point the way toward more fruitful results in Rorschach evaluation.

The statistical analyses are ingenious and exhaustive (one has to read the book to appreciate fully the vast amount of work involved) and far from being strictly empirical and divorced from theoretical considerations are integrated with theory in such a way as to support, modify, or refine the significance of certain determinant signs and patterns. This section of the report unquestionably represents a distinct contribution to Rorschach theory.

Examination of the Basic Rorschach scores of the various clinical groups reveals marked overlap and this may appear as a distinct limitation. However, it is possible, and perhaps likely, that the integration level (if that is what the Basic Rorschach score measures) is more significant than the nosological label. It may, for example, account for the difference between ambulatory and hospitalized schizophrenics. On the other hand, the standard deviation of the scores for some of the group, for example, the sexual psychopaths, is so large, that the members in this group range all the way from complete disintegration to presumably perfect, or at least, normal adjustment. Since it is unlikely that sexual psychopaths, especially those who must have been in psychopathic institutions in order to be included in this study, are sufficiently well-integrated to show such a high degree of adjustment, a question is raised as to what a given Basic Rorschach score really means. To answer this question, it seems necessary to validate this score against some external criterion of degree of integration or disintegration level. Perhaps a psychiatric rating scale of integration level could be devised for this purpose.

It should be kept in mind that the Basic Rorschach score is not the only thing that emerges from the use of the Diagnostic Rorschach sign list. After all, it is based upon and certainly does not preclude the use of the distribution of determinants, which can be appraised clinically in the usual fashion. However, the psychograms will not be identical with the ones derived from the ordinary form of administration (since the total number of responses, and consequently the distribution of determinants may be different) and will therefore require the accumulation of a background of experience

for the interpretation of individual cases.

If we examine the diagnostic sign list, some interesting facts emerge:

1. Eighty items out of the 102 on the list are scored; of these, 23 are positive (+) items, which yield a total possible weighted score of 40 points; and 57 are negative (−) items, which yield a total possible weighted score of −105 points. The total possible weighted score range is from +40 to −105 points. Twenty-two items apparently did not prove discriminating and do not enter into the Basic Rorschach score.

2. As we might expect, there is an optimal range for certain specific determinant or pattern values, so that values above or below this optimal range are less favorably weighted.

3. For some signs, the crudeness of the units appear to be a disadvantage. For example, if the total number of responses is 24 or less, the weighted score is minus 3 points; whereas, if it is 25 or more, the weighted score is plus 3 points; similarly, an F% of 41 to 50 receives a weight of +2, whereas an F% of 51 to 75 receives a weighted score of minus 3 points. Obviously, if an individual falls just over or just under the line on a number of such signs, it may make quite a difference in his total adjustment score.

I should like to end by making some suggestions although I am afraid that they may necessarily introduce a subjective element into the scoring system:

1. Sequence analysis by *location* and *content,* a fruitful source of insight, is entirely omitted from the diagnostic sign list. It may be possible to provide a way of scoring for location succession by assigning positive weight for orderly succession, and appropriate negative weights for the extremes of rigid or confused succession. In similar manner, it may be possible, although admittedly more difficult, to determine a weighting system for content sequence analysis.

2. Content symbolism, which may yield valuable clues relative to the underlying personality dynamics, is also lacking in the diagnostic sign list. It should, for example, be possible to assign scores for the presence and quality of oral or anal responses given to phallic areas on the cards.

As a concluding statement, I should like to say that one of the major contributions in the approach of Drs. Buhler and Lefever lies in the research methodology that is presented.

•

MORTIMER M. MEYER, PH.D.*: Without minimizing the importance of the contribution of the basic Rorschach score, I would like to turn to the aspect of the study which is of great interest to

* Chief Clinical Psychologist, Veterans' Administration, Mental Hygiene Clinic, Los Angeles, California.

me. I find the most creative value of the study lies in the tentative beginning of the elucidation of the *meaning of both determinants and relationship*. We have been using both of these for a long period of time on an empirical basis, plus the intuitive contribution of various individuals in the field. However, the accumulation of records presented in this study offers one of the first good opportunities to verify and investigate further the understanding of personality and the Rorschach interpretation which are currently made. For example, there comes to my mind the study of FM's as an indication of impulsiveness, which this study investigated by comparing the number of FM's in the manic and the depressive records. The gathering of the vast variety of possible indicators in this study suggests the complexity of the task, but also provides an unusual opportunity for insight into the various aspects of personality which up to this time must generally be deduced from content or intuitively, rather than through more objective means.

It is in the examination of *these fundamental dynamics* that I believe research can offer the greatest contribution. I believe, however, that we cannot neglect the investigation of the content of responses in order to understand the more specific dynamics. The analysis of the scoring, while desirable, is nevertheless insufficient for deeper insights into the personality. It thus becomes obvious that the question of quantitative versus qualitative interpretation is purely a "straw man." There is no doubt about the important contribution of each to the other in the Rorschach.

I would like to point out, however, that comparison of the presence of determinants by number requires that the subject be permitted to give records which are not in any way influenced by artificial controls. Interference with the subject's giving responses according to his own needs may give a false picture. With pressure the number of the determinants may be increased in one way or another. With the limitation of the number of responses in subjects we also limit the number of various determinants, with the result that a group for whom a large number of a specific determinant may be the distinguishing characteristic, does not show this characteristic. That is, differences which actually are present tend to be leveled off. It would therefore seem to me that any specific pressure investigation in the administration of the Rorschach should be delayed at least until the initial responses to all the cards have been completed.

•

WILLIAM MARSHALL WHEELER, PH.D.*: The desire of any member of a panel of this sort is to present so-called "constructive criticisms" of the research effort he has been asked to discuss. I have

* Clinical Psychologist, Veterans' Administration, Brentwood Hospital, Los Angeles, California.

found this a difficult task to accomplish. When I tried to be "constructive" I found that the ultimate result was a simple statement to the effect that the Drs. Buhler and Lefever should be given every encouragement and opportunity to continue and extend their mode of approach to the Rorschach. This is hardly "critical" in any sense.

Turning to a more explicitly critical approach I was soon struck by the fact that what I had to say readily fell into either of two categories. The first was composed of comments which essentially reflect only certain differences of opinion not readily defensible on any concrete or even theoretical basis. The second type of comment came in the form of questions, i.e., there were certain small points, frequently statistical ones, which were not clear to me, though I had no doubt that they could be clarified.

To ask these questions and to point out the differences in opinion is all I feel qualified to attempt. To force some order on what is really a series of little related individual points, I have covered them in the order of their occurrence in the volume.

One is struck in examining the mean profiles (pages 20 et seq.) by the fact that in all composite profiles the FM column is higher than the M column with the exception of two where they are equal — normal I, II and Paranoid Psychopath. This may be an artifact of the methods of administration and scoring (Chapters 9, 10, and 11). It is relevant, perhaps, that administration and scoring procedures have been such as to make these data of questionable use if direct application of the results is made to records administered in the more orthodox fashion. I should like to quote several pertinent paragraphs:

Page 50:

> "It seems a very mechanical concept to believe that free self-expression is disturbed when a person is induced to be interested in what he is doing. Our instructions at the beginning of the test are so worded that the subject appreciates the significance of the test as a means of studying his personality and helping him in his predicament. We want an optimum, not a casual performance, and prodding is done to the extent that it will improve the test performance."

Page 51:

> "There is only one conclusion to be drawn. It is best to rely as little as possible on the subject's opinion of what determined his perceptual process, and to objectify the scoring as much as possible without falsification of data. Accordingly our procedure includes many more directions than are usually given and includes the technique of alternative questions in the inquiry (Cf. Ch. 11). The objection can be made that alternative questions suggest possibilities not otherwise considered by the subject."

Chapter 11, makes it clear (Cf. page 55) that quite suggestive comments are made during the main presentation such as "prodding" in regard to the populars and the asking for specifications (head, mouth, nose and legs on H and A) in the main presentation. The "precise location" of all responses is determined in the main

presentation prior to the usual inquiry. Responses to each card are limited so that there shall be "a minimum of thirty and a maximum of fifty for the test." (Page 53)

But to return to FM, the main example I have chosen to show the unorthodoxy of Dr. Buhler's approach, I should like to quote an example of typical "alternative" questions asked during the Inquiry:

Page 56:

> Card II. "Two dogs." "Do they seem to be standing or sitting or is it just the shape of dogs that you see?" "They seem to look at each other."

It is now apparent why the main FM column is unexpectedly high. I would suggest, even, that it is possible that certain ratios may have been distorted due to these methods, although this is, of course, difficult to demonstrate. Surely, however, the results of the study could only with grave question be applied to the interpretation of more orthodoxly administered and scored protocols.

I should like to add, however, that I can certainly appreciate the usefulness of the sort of approach to the Rorschach in Dr. Buhler's present study where *research* is the main object. Certainly the restrictions and suggestions made facilitate a statistical approach to the test. It is only on two points that I have any serious question: (1) in regard to the application of results to an interpretation of an individual record, (2) the effect of the administration procedure if it should be introduced, on certain patients.

I should first like to compliment Dr. Lefever on the clarity and comprehensiveness of the statistical presentation and then ask two questions. (1) On Page 98 occurs this statement:

> "Positive weights in most instances remain positive; that is, they favor the group which is higher in the hierarchy of clinical groups. Negative weights also tend to be consistently negative. A few low weights shift their algebraic signs."

I can only ask what significance this has, since I have been unable to interpret its meaning. (2) Using the chart on the preceding page (97) I should like to point out that since, by definition, one would expect 5 of the signs to differ "significantly" from chance at the 5% level we have what amounts to a "high correlation" between the occurrence of the signs in these two groups. This same admittedly loosely determined impression is gained from the comparison of psychopaths and organics given on page 95. Certainly an application of these signs to new data to determine the stability of differences is to be desired.

To return to the "constructive," I would like to add that I was most impressed with the demonstrations in the study of how a projective technique, when used independently of outside criteria, can give us useful theoretical information. This is perhaps the major

contribution of the study. All of us realize the growing necessity to cut across diagnostic labels in our approach to an understanding of personality structure. One can properly question which is the criteria in the present study, the Rorschach results or the clinical impression? If we consider both as deriving from samples of behavior which have been independently obtained and if we then study them with a view of their self-consistency and the agreement between them, we can profitably leave the criterion question behind.

•

S. M. WESLEY, PH.D.*: One of the things which interested me most in the study by Drs. Buhler and Lefever is the basis which is provided for a more objective interpretation of the basic psychological meaning of the determinants in the Rorschach. The data from this study make it possible to clarify the meaning of the determinants and various other aspects of performance on the Rorschach through the comparison of these items as they occur in various groups of subjects. This kind of dynamic interpretation and clarification is possible only when we have data collected on a sufficient number of cases in a variety of categories, where the administration and scoring has been more or less standardized. A study done by Edith Lord at the University of Southern California has shown that the results on the Rorschach may differ quite widely in the case of different administrators. This calls attention to the need for the type of standardization which Dr. Buhler is attempting to establish.

I should like also to stress what I feel to be the very real and great value of the Basic Rorschach Score. One of the most important problems in clinical psychology is that concerned with the weighting of the various components revealed by diagnostic tests. This problem is particularly acute in the training of students in clinical psychology. These students have often become sensitized to the various pathological features which may be revealed by a Rorschach or other diagnostic tests but have not yet developed the ability to integrate these pathological signs in relation to the strengths and defensive capacities of the personality under consideration.

The Basic Rorschach Score provides the first contribution in the field of projective techniques that I am familiar with to the problem of developing an overall measure of integration — a measure which is absolutely essential, not only for adequate diagnosis, but for prognosis and the evaluation of therapeutic possibilities. It should perhaps be emphasized that the Basic Rorschach Score does not simply represent a quantification of something which has been previously more loosely evaluated. It actually represents a new and

* Associate Professor of Psychology, University of Southern California.

significant evaluation variable. It specifies in quantitative terms a qualitative feature of Rorschach performance which may well prove to be one of the most important of all the aspects of this test.

Certain questions might be raised in connection with some of the detailed procedures and methods utilized by Drs. Buhler and Lefever in conducting their study:

1. Rather than presenting alternative determinants to the subject in order to clarify scoring, it might be better to allow the subject more freedom in giving his specifications and to conduct the initial stages of the inquiry in a more "non-directive" manner, bringing additional "pressure" to bear only if confusion and doubt still remain as to the subject's intent. We might well develop a graded series of steps in the application of such pressure. Certainly, the spontaneity with which a determinant is accepted by the subject is an important variable in arriving at the meaning of this determinant for the subject.

2. I feel that additional clarification of some of Dr. Buhler's scoring rules may be indicated. Here it is not so much a question as to which scoring procedure is the correct one, but rather the importance of standardization of procedure and general acceptance of whatever rules are used, as a necessary step in the wider application of the method and the collection of further research data. The scoring rules for *space* and for *animal movement* are the two which I would particularly like to see discussed more fully.

3. I have long felt that it might be desirable to formulate a further systematic break-down of certain qualitative pathological features in single Rorschach responses. There are actually many different sub-types which I feel could be isolated under the general headings now known as "Confabulation" and "Contamination." These two terms by no means exhaust the various peculiarities in the thought processes which are often revealed by specific Rorschach responses. These peculiarities might well be added to the present list of signs which form the basis for the method.

●

REPLIES TO PANEL DISCUSSION

Reply to HARRY M. GRAYSON BY CHARLOTTE BUHLER: I am sure that my collaborators and I are most grateful for the generous praise and excellent appraisal of our work. I am especially happy to hear Dr. Grayson emphasize our attempts to integrate theory and statistics. Figures and interpretations were constantly checked against each other during every phase of the study.

An important criticism made by Dr. Grayson concerns the overlapping of clinical groups in the Basic Rorschach Score and the wide score distribution within each group. Although Dr. Lefever

will probably answer from a statistical point of view, I would like to stress two facts from the clinical standpoint.

First, the wide distribution of some of the clinical groups is probably due to the character and to the psychiatric use of certain clinical entities. For instance, the group "Sex Psycopath," in itself a disputed category, derives its wide distribution in our scores from the way it is used in psychiatric diagnosis. It is used for cases with prominent sex pathology, the etiology of which can be very varied. A number of cases classified as sex psychopaths might, after lengthier studies, prove to be neurotics whose sex perversions are forms of sexual immaturity. Other cases at the opposite end of the BR scale might later be recognized as incipient schizophrenics. Hence, the widespread scores reveal an inadequacy of psychiatric diagnosis rather than a weakness in the scoring system.

Another clinical group, the nonpsychotic organics, show a wide BR score spread for other reasons. This group is very mixed because of the different organic impairments involved. A brain concussion, a skull fracture, a tumor, a postencephalitic condition, or other impairments would naturally represent different degrees of illness and it seems logical that they should spread over a wide range of scores.

No doubt, greater precision could be reached if more selected cases were used. But it seemed important to include in our first study the entire range, variety, and complication of problematic cases as they face the diagnostician. However, it should be emphasized that cases were accepted for our study only when several doctors concurred on the diagnosis.

The BR score appears to measure personality integration rather than clinical characteristics. The level of personality disintegration can be similar in a number of different clinical conditions. Presumably, a number of different organic or functional illnesses could result in the same degree of disorder as far as ego-organization is concerned. In prognosis and for practical purposes of evaluating an individual's ability to cope with life, the disintegration measurement opens new possibilities of measuring disablement unhampered by diagnostic problems.

Dr. Grayson's idea of devising a psychiatric rating scale for integration levels and its comparison with the BR score level is an excellent suggestion which we expect to follow.

We are also aware of the need to include aspects such as sequence and content symbolism in our weighting system. The greater difficulties of these procedures and our time limitations have so far prevented us from such studies.

Dr. Lefever will answer Dr. Grayson's statistical comments in greater and much more precise detail.

Reply to HARRY M. GRAYSON BY D. WELTY LEFEVER, PH.D.*: The total of the possible positive weights is not as high as indicated by Dr. Grayson since there are mutually exclusive signs in the list. This limitation also reduces the sum of the negative signs. The maximum possible total score is 35 points, while the negative signs cannot exceed a total of −85 points.

The twenty-two signs which were not sufficiently discriminating to be included in the BR score have been retained because of their value in constructing diagnostic sign patterns. These are in process of development.

In connection with the "optimal range" referred to by Dr. Grayson, it is interesting to note that a number of Klopfer's previous findings have been confirmed by the data and analysis presented. An example is the desirability of obtaining an F per cent between 20 and 40.

Further statistical study is planned to determine possible intermediate signs to reduce such abrupt jumps in scoring as the one cited by Dr. Grayson where the number of responses changes from a minus 3 points to a plus 3 points at 25 responses.

•

Reply to MORTIMER M. MEYER BY CHARLOTTE BUHLER: In agreement with Dr. Meyer, I feel that the possibility of elucidating the meaning of the determinants and other Rorschach signs by comparing their distribution in different clinical groups is an important result of our efforts.

It is quite certain that a complete Rorschach study must include content analysis and quantitative analysis. We do not intend to replace the qualitative Rorschach study. We merely hope to establish whether or not figures and scores can be used meaningfully and reliably as part of the Rorschach interpretation.

If some workers feel that the completely uninfluenced Rorschach is essential to their work, they may follow Dr. Meyer's suggestion and administer the Rorschach in their usual manner, adding the questions we require either during the inquiry or later.

•

Reply to WILLIAM MARSHALL WHEELER BY CHARLOTTE BUHLER: Again I am very grateful for Dr. Wheeler's criticism since its answer requires amplification of some important problems. Dr. Wheeler is concerned with the effects of our deviating administrative procedures. Our procedures serve to reduce the variety of the Rorschach responses. However, after much experimenting with the usual procedure, ours seemed to be a necessary measure for purpose of comparison. The limit placed on responses results in more comparable figures in the many categories in which absolute figures

* Professor of Education, University of Southern California, Los Angeles, California.

appear and the more direct questioning makes answers scorable which otherwise would not be scored at all or would be mis-scored.

However, it must be stressed that we are not insistent in prodding. If, after two reminders, the subject still makes very few responses, he is assured that this is quite all right. If a subject is very eager to add more than the five responses per card, he may do so. On the whole, the good rapport has secured good cooperation and maximum effort from patients who were initially antagonistic.

Rorschachs that have been carefully administered in the traditional manner can usually be scored with our devices. The deviations from Klopfer's procedure must not be overestimated.

Some of the deviating results are in better agreement with the psychology of the studied case than is true of the results reported by traditional workers. For instance, higher FM's than M's are found in most clinical groups, but that should be expected, since instinctual immaturity is the outstanding psychological characteristic of most neuroses and many psychoses. It seems reasonable to assume that the high FM is an adequate expression of this fact.

Also in individual record interpretations, the results of our procedure have proved advantageous, as will be developed in a chapter of our second volume.

•

Reply to WILLIAM MARSHALL WHEELER BY D. WELTY LEFEVER: The statement quoted by Dr. Wheeler from Page 98 is intended to emphasize the remarkable internal consistency of the scoring weights which were derived from each of the ten diagrams (pages 88-97). When a particular sign appears to be "positive" on any one diagram; that is, when it occurs more frequently in the clinical group plotted vertically than in the group plotted horizontally, it will usually be positive on the other nine diagrams. The same is true for the "negative" signs which represent a greater frequency for the horizontal group. The significance of this consistency is of course related to the selection of the clinical group from each pair to be plotted vertically. The vertically plotted group is always the one in each pair which would be considered nearer normality in the following order: normal, psychoneurotic, psychopathic, organic, and schizophrenic groups.

Certainly new and larger samplings in each of the clinical groupings are needed to assure final stability of the weightings. However, these weights have proved remarkably consistent for the different samples analyzed in this initial standardizing study.

•

Reply to S. M. WESLEY BY CHARLOTTE BUHLER: I am very grateful to Dr. Wesley for emphasizing the usefulness of the standardization in a training program. Beginners are often confused for a long period about the imponderables of this subtle device. The more definite instructions and the BR Score make the learning pro-

EDUCATION LIBRARY

cedure clearer and simpler and prevent the beginner from making gross errors in the diagnostic placement of a case.

We agree with Dr. Wesley that the comparability of individual Rorschachs seems an advantage rather than a loss, in spite of a possible decrease in intra-individual differences.

Another important point mentioned by Dr. Wesley is the possibility of measuring integration levels. Personality integration has not yet been studied with quantitative means and this is such an attempt. I find it particularly important, as mentioned previously, that the integration concept is borne out by the Rorschach material itself without reference to outside resources.

Patterns for diagnosing and for discriminating clinical groups are naturally another important task of the Rorschach which we have not overlooked and which invites research in the near future.

Analysis of Group Rorschachs of Biologists

ANNE ROE, PH.D.*

This paper reports the details of part of an extensive investigation of personality and vocation. The present focus is on scientists; the work was begun with studies of biologists, and is now continuing with studies of physicists. It is subsidized entirely by a grant from the United States Public Health Service (RG 446 MH10).

Two types of investigation have been used. The major one has been intensive clinical studies of a few of the most eminent research men. These studies have comprised long interviews; study of the work of the men and administration of three tests, the Rorschach, the TAT and a verbal-spatial-mathematical test constructed for the purpose. These data are reported in a monograph and a paper now in press.

The other type of investigation has been by Group Rorschachs of the faculties in biology of eight universities and the National Museum. Portions of this material are reported in the Monograph referred to above, but the full part of it is presented here.

Some 80% of biologists are in the academic field, and all of the men studied individually are located there. A representative sample of biologists was therefore sought from these groups. It was desirable that the subjects be at least moderately specialized in their interests. The original plan of obtaining subjects at the annual meetings of various biological societies was discarded when further consideration made it apparent that it would be impossible to be certain of the biases involved in the selection. The Office of Scientific Personnel very kindly supplied information about the distribution of biologists, and also the figures for the number of degrees in biology given by various institutions within a 12 year period. It seemed evident that the institutions giving the largest number of degrees in biology would have the most specialized, as well as the largest, faculties in the field. Since there have been no studies of university faculties, it seemed advisable to include both public and private universities, and universities from different geographical areas. Finally, the country was divided into four geographical areas (by combination of census divisions) and the public and private university in each area which had given the largest number of degrees in biology during the period for which the data were available, were selected. These were Columbia and Cornell (partly public and partly private); Chicago and Wisconsin; Berkeley and Stanford; and Johns Hopkins and Maryland. The National Museum was also included in order to have a sample from a mu-

* Research Psychologist in Clinical Psychology, New York City (Independent Research Grant, U.S.P.H.S.).

seum in addition to the university groups. The faculties in biology in these institutions were all asked to take the Group Rorschach. Response was better at some institutions than at others, but averaged about 50%. So far as could be ascertained, there is no particular selective factor at any university.

I did the testing at Columbia, Maryland and the National Museum. The testing at Cornell was done by Dr. Frank Freeman; at Chicago by Mrs. Jonietz, working under Mrs. Jahnke; at Wisconsin by Mr. Leonard Eron, working under Dr. Ann Margaret; at Berkeley by Mrs. Erica Weingarten, working under Dr. Jean MacFarlane; at Stanford by Mr. John Schlosser and at Johns Hopkins by Dean G. W. Shaffer. It should be said that all of these people worked very hard at what is obviously a rather delicate job, and a good deal of credit is due them for the way in which they carried it out.

The tests were all expertly scored by my assistant, Mr. Louis Getoff, by the Munroe Inspection Technique, and later checked by me. The statistical work has been largely done by Miss Mina Haskind.

The results have been analyzed for comparison among individual institutions; between public and private institutions; between geographical areas; between the sexes; between different university ranks; and between different fields in biology. In addition some correlations were run for their interest for the use of this method. The data will be presented in tables with a minimum of verbalization.

I am satisfied that the Group Rorschach, while certainly less thorough than the individual administration of the test, nevertheless yields clinically valuable material of the same sort. A number of the subjects to whom I administered the test requested a personal report. This always resulted in what was in effect a clinical interview and the test findings were confirmed in every instance.* Use of the data in the form in which they are presented here is, however, a somewhat different matter. The problem is to make a group analysis which shall at the same time be clinically relevant. For this purpose the Munroe technique is on the whole a satisfactory one. I think that some of the check list entries may eventually be changed. I do not, however, think that the changes will be serious ones; the fact that the technique *is* clinically valid is good enough here. In any case, so far as the present study is concerned, all subjects are scored in the same way, so that comparison of groups is unaffected.

* As Forer (J. Abn. and Soc. Psych. 44:118, 1949) has recently pointed out, such confirmation may be more apparent than real. These were all long interviews with much discussion of each point as it was taken up. What is important is that the results of the Group Rorschach are very nearly as effective as those of the Individual Rorschach in the sort of work I am doing at the moment.

TABLE 1. Comparison of Individual Institutions

		1	2	3	4	5	6	7	8	9
N		29	31	7	14	12	35	15	36	9
Age:	Range	28 – 60	26 – 62	31 – 57	27 – 62	33 – 63	23 – 63	27 – 64	26 – 70	32 – 67
	Mean	40.4	42.6	37.9	39.6	42.8	42.3	38.1	41.1	44.7
	S.D.	11.0	9.5	9.2	9.7	10.0	9.9	10.3	7.7	12.5
R:	Range	16 – 69	18 – 64	18 – 138	13 – 37	16 – 67	12 – 91	16 – 75	10 – 62	16 – 45
	Mean	30.0	37.1	53.0	23.9	29.8	37.6	30.5	28.3	26.7
	S.D.	13.1	10.8	40.5	7.3	15.3	17.5	14.2	13.0	9.6
ITS:	Range	3 – 20	1 – 19	6 – 18	4 – 19	3 – 19	0 – 28	5 – 20	2 – 21	4 – 18
	Mean	11.2	10.2	11.6	11.3	10.7	12.3	9.9	11.0	8.9
	S.D.	3.9	4.6	3.7	4.9	5.0	6.0	4.2	4.6	3.8

Analysis of Variance:

Age	F	<1.00	
R	F	3.687	significant at 1% level
ITS	F	<1.00	

1. Comparison of Individual Institutions

Table 1 presents data on age, number of responses (R) and Inspection Technique Score (ITS) for the individual institutions. On analysis of variance of these distributions, the institutions do not differ with respect to age or to Inspection Technique Score, but do differ significantly in respect to number of responses.

The most aberrant university (No. 7) contributes one R of 138, the next highest in the total group being 91. As this is also the smallest group, the effect on the analysis is relatively large. However, there are other significant differences. Application of the t test shows the following differences:

Between universities:	t	P
1 and 2	2.31	.05 – .01
3 and 1	2.63	.05 – .01
3 and 4	2.66	.05 – .01
3 and 8	3.05	<.01
4 and 2	4.16	<.01
4 and 6	2.81	<.01

It is clear that the universities averaging highest (3) and lowest (4) differ from some of the others to an extent greater than chance and that there is also such a difference between universities 1 and 2 (higher).

Table 2 gives the comparative data for the different institutions on the Check List. Both frequencies and percents are included in the table for easy comparison. Plus entries indicate an excessive number and minus entries an insufficient number of responses in the given category, taking into consideration the total number of responses (R) given by the subject. In these comparisons I have not distinguished between single and double plusses, minuses and checks, the double entries indicating higher degrees of deviation. The entries of B, V or E indicate poor or vague form, or excessive niggling over form. The entry r under M covers all restrictions of M, whether in terms of very restricted movement, passive attitudes of the figures, interpretation in terms of witches, etc. For further interpretation of the check list entries see Munroe.

Entries showing marked differences among the institutions were checked by the chi-square technique and the following differences are of some significance:

O (+ or no entry for +): Chi-square is significant at the 1% level. The major contributions to chi-square are made by universities No.1 and No. 8, both of which have high O+.

M (–, r, neither): Chi-square, using the categories –, r and neither is significant at the 1% level. University No. 1 has more entries for r, universitites No. 4 and No. 6 more for –.

TABLE 2. Comparison of Institutions on Check List Entries

Institution	1		2		3		4		5		6		7		8		9	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total N	29	....	31	....	7	....	14	....	12	....	35	....	15	....	36	....	9	....
W% +	9	31	2	6	1	14	6	43	3	25	6	17	4	27	11	30	4	44
−	2	7	4	13	2	28	0	0	1	9	3	9	0	0	1	3	0	0
BVE	4	14	4	13	0	0	2	14	1	9	4	11	3	20	2	6	0	0
Dr% +	13	45	24	77	4	57	6	43	5	43	21	60	5	33	16	44	3	33
S +	5	17	4	13	1	14	1	7	3	25	4	11	0	0	7	19	1	11
Suc 1 or 11	2	7	3	10	2	28	1	7	1	9	10	29	1	7	1	3	0	0
P −	6	21	1	3	2	28	1	7	0	0	6	17	1	7	6	17	1	11
O +	12	41	4	13	3	42	2	14	1	9	5	14	1	7	13	36	0	0
BV	1	3	3	10	0	0	1	7	2	17	0	0	2	13	3	8	0	0
At, Sex +	12	41	10	32	1	14	2	14	1	9	7	20	3	20	9	25	0	0
Range − or t	5	17	4	13	3	42	3	21	0	0	10	29	6	40	4	11	1	11
F% +	8	28	13	42	5	70	9	65	6	50	16	46	3	20	16	44	4	44
−	2	7	0	0	1	14	0	0	0	0	0	0	0	0	4	11	1	11
BVE	2	7	7	23	0	0	7	50	3	25	7	20	4	27	9	25	1	11
Shading Shock ✓	16	55	16	52	5	70	11	78	7	58	18	51	10	67	27	75	5	56
FK, Fc −	4	14	2	6	1	14	5	36	2	17	5	14	3	20	7	19	1	11
c +	3	10	5	16	1	14	3	21	2	17	10	29	1	7	9	25	2	22
C′ +	3	10	10	32	0	0	0	0	1	9	4	11	2	13	3	8	0	0
K, k +	3	10	1	3	0	0	5	36	2	17	7	20	1	7	5	14	1	11
M +	0	0	2	6	0	0	0	0	0	0	0	0	2	13	0	0	0	0
−	7	24	12	39	2	28	13	93	4	33	23	76	4	27	15	42	6	67
r	13	45	7	23	4	57	2	14	3	25	6	17	6	40	6	17	1	11
FM +	1	3	8	26	1	14	3	21	2	17	13	37	2	13	6	17	3	33
−	3	10	5	13	1	14	6	43	3	25	11	31	2	13	9	25	2	22
m +	10	34	2	6	0	0	1	7	1	9	4	11	3	20	9	25	0	0
Total movement +	4	14	2	6	0	0	0	0	0	0	0	0	1	7	3	8	0	0
−	0	0	3	9	2	28	4	28	1	0	11	31	1	7	6	17	2	22
Color Shock ✓	22	76	25	81	6	84	12	85	9	75	23	76	12	80	24	67	7	78
FC −	18	62	8	26	3	42	7	50	9	75	17	48	7	47	16	44	5	56
B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0
CF +	6	21	4	13	2	28	3	21	5	43	11	31	3	20	4	11	2	22
−	11	38	11	35	2	28	1	7	5	43	8	23	5	33	17	47	2	22
C +	1	3	2	6	0	0	0	0	1	9	4	11	0	0	1	3	0	0
Total color +	1	3	0	0	0	0	0	0	0	0	0	0	2	13	2	6	1	11
−	11	38	11	35	5	70	5	36	6	50	11	31	3	20	19	53	5	56
C:M +	3	10	9	29	0	0	6	43	1	9	17	48	8	54	10	28	2	22
−	17	58	11	35	4	57	0	0	5	43	6	17	4	27	13	36	2	22

FM (+, − and neither) is significant at the 5% level, with major contributions being made by universities No. 1 and No. 6, No. 1 having few entries of either + or −, and No. 6 having many.

m (+ or no entry): Chi-square is significant at the 5% level; major contributions from No. 2, No. 8 and No. 9, which have few entries.

These data make some sense, taken as a whole. With regard to total number of responses, I think the considerably higher average at No. 3 is due to the prestige of the examiner, which might easily have acted to bring greater effort from the subjects. It was my impression that the faculty at No. 4 are a remarkably easy-going lot, with considerably less intellectual drive than the others. The difference in R between No. 1 and No. 2 is not as easily explained; it may reflect differences in the administration of the test. I think, however, it may also be linked to the general character of the faculty of No. 1 which may be described as primadonnaish.

This is confirmed throughout the check list, and shows up in the significant difference for high original entries (shared with No. 8, which generally tends the same way but to a lesser extent), the use of restricted M rather than failure to use M; the few entries for FM, and the rather few indications of free anxiety, but the high number of At and sex responses. The qualitative differences are also rather striking — reading through the protocols this group tends to stand out as a rather vivid one. This makes for intellectual excitement in working with such a group; it also makes for administrative difficulties. Universities No. 4 and No. 6 present the greatest contrast to this situation.

Perhaps even more striking than the differences are the similarities, in the consistently high number of entries for Dr%, for shading and color shock, and for lack of FC responses.

2. Comparison of Private and Public Universities

Tables 3 and 4 present the data for comparison of public and private universities. There are no significant differences between them in age, number of responses or total ITS score. P values for the chi-square tests of check list entries which showed any degree of significance are included in Table 4. It appears that the public university faculties have greater use of c; give no M rather than restricted M, the contrary being true of the private university faculties; tend to greater extremes in use of FM; show greater restriction in the whole field of movement and less restriction in color, the reverse being true of the private university faculties.

TABLE 3. Comparison of Private and Public Universities

	Private	Public
N	63	116
Age: Range	27 – 64	23 – 70
Mean	40.1	41.7
S.D.	10.3	9.0
R: Range	16 – 138	10 – 91
Mean	32.7	32.9
S.D.	19.3	14.3
ITS: Range	3 – 20	0 – 28
Mean	10.8	11.2
S.D.	4.1	5.1

No differences are significant.

These differences may be roughly summarized by the statement that in general the faculties of these private universities tend to less facility and interest in the social aspects of living, and somewhat more concern with ideational productions, and with a little better general intellectual control. This difference is chiefly one of general orientation.

3. REGIONAL COMPARISONS

These are offered with the qualification that there is no evidence that the two universities in each region are adequately representative of that region. They were chosen for the large numbers of degrees they offer in biology and hence in that respect differ from other universities in the same region. They are in general among the best universities in the country; the comparisons are therefore only partially regional ones.

Table 5 presents the data for age, R and ITS. None of these differences is significant.

Table 6 gives the check list entries for the different areas, Chi-square tests for all four groups were significant only for H– (at the 1% level) and for use of FM (+, no entry and –; 1% level). Comparisons of pairs brought out certain other differences which are given in Table 7.

Region A enters into 14 of these significant comparisons, D into 10 and B and C into 8 each. C is chiefly notable for its relatively high incidence of shading shock and use of m; B and D for high incidence of M–; D for its high F% and high K+; and A for high incidence of anatomy and sex responses, and of C′ and m responses.

I find it, however, impossible to deduce any general picture from this. The overall likenesses are greater than the differences, but it seems probable that there are some differences associated with area – sufficient, at least, that this factor should be kept in mind in research of this sort.

TABLE 4. Comparison of Check List Entries for Public and Private Universities

Check List Entries	Public Universities N	Public Universities %	Private Universities N	Private Universities %	P Value of Chi-Square
Total N	116	....	63	....	
W% +	25	22	17	27	
−	8	7	5	8	
BVE	12	10	8	12	
Dd% +	67	58	27	43	
S +	16	14	9	14	
Suc 1 or 11	15	13	6	10	
P −	14	13	9	14	
O +	24	21	17	27	
BV	7	6	5	8	
At, Sex +	30	26	17	27	
Range − or t	21	18	14	22	
F% +	54	47	22	35	
−	4	3	3	5	
BVE	30	26	9	14	(.1 − .05)
Shading Shock √	72	62	38	60	
FK, Fc −	19	16	10	16	
c +	27	23	7	11	.05 − .02
C' +	14	16	6	10	
K, k +	18	12	6	10	
M +	2	2	2	3	
−	63	54	17	27	<.01
r	23	20	27	43	<.01
FM +	30	26	6	10	<.01
−	32	28	9	14	.05 − .02
m +	22	19	14	22	
Total Movement +	5	4	5	8	
−	24	21	4	6	.01 − .02
Color Shock √	94	81	49	78	
FC −	48	41	37	59	.05 − .02
CF +	22	19	16	25	
−	37	32	23	37	
C +	7	6	2	3	
Total Color +	2	2	3	5	
−	45	39	25	39	
C:M +	42	36	12	19	.02 − .01
−	30	26	28	45	

TABLE 5. Regional Comparisons

Area	A	B	C	D
N	60	47	51	30
Age: Range	26 − 62	23 − 63	26 − 70	27 − 67
Mean	41.6	42.4	40.3	40.7
S.D.	10.1	9.7	8.5	10.4
R: Range	16 − 69	12 − 91	10 − 75	13 − 138
Mean	33.7	35.6	28.9	31.5
S.D.	12.3	17.0	13.1	22.8
ITS: Range	1 − 20	0 − 28	2 − 21	2 − 21
Mean	10.6	11.9	10.7	10.6
S.D.	4.3	5.7	4.4	4.4

TABLE 6. Comparison of Check List Entries by Regions

Check List Entry	Northeast Area A		Central Area B		West Area C		Southeast Area D	
N	60		47		51		30	
	N	%	N	%	N	%	N	%
W% +	11	18	9	19	15	29	11	23
−	6	10	4	8	1	2	3	10
BVE	8	13	5	11	4	8	2	6
Dd% +	37	62	26	55	21	41	13	43
S +	9	15	7	15	7	14	3	10
Suc 1 or 11	9	15	11	23	2	4	3	10
P −	7	12	6	13	7	14	4	13
O +	16	27	6	13	14	27	5	17
BV	4	6	2	4	5	10	1	3
At, Sex +	22	37	8	17	12	24	3	10
Range − or t	11	18	10	21	10	20	6	20
F% +	21	35	22	47	19	37	18	60
−	2	3	0	0	4	8	2	6
BVE	9	15	10	21	13	25	8	27
Shading Shock √	32	53	25	53	37	73	21	70
FK, Fc −	6	10	7	15	10	20	7	23
c +	8	13	12	26	10	20	6	20
C' +	13	22	5	11	5	10	0	0
K, k +	4	6	9	19	6	12	6	20
M +	2	3	0	0	1	2	0	0
−	19	32	27	57	19	37	21	70
r	21	35	10	21	15	29	7	23
FM +	9	15	15	32	8	16	7	23
−	8	13	15	32	11	22	9	30
m +	12	20	5	11	12	24	1	3
Total Movement +	6	10	0	0	4	8	0	0
−	3	5	12	26	7	14	6	20
Color Shock √	47	78	32	66	36	71	25	83
FC −	26	43	26	55	23	45	15	50
CF +	10	16	16	34	7	14	7	23
−	22	37	13	28	22	43	5	17
C +	3	5	5	11	1	2	0	0
Total Color +	1	2	0	0	5	10	1	3
−	22	37	17	36	22	43	15	50
C:M +	12	20	18	38	18	35	8	27
−	28	47	11	23	17	33	6	20

4. SEX DIFFERENCES

There are very few women in this group, and this is the case in the field generally. In view of the disproportionate numbers, 18 women and 170 men, it is not too surprising that none of the differences, either between means, or between frequencies of check list entries, are significant. Apart from this technical point, the correspondence is quite striking. The data are presented in Tables 8 and 9.

TABLE 7. Significant Differences Between Regions

Entry	Pair	P Level	
Dd% +	A – C	.05 – .02	
At, Sex +	A – B	.05 – .02	
F% +	A – D	.05 – .02	
F% +	C – D	.05 – .02	
Shading Shock	A – C	.05 – .02	
Shading Shock	B – C	.05 – .02	
C′ +	A – D	<.01	
K +	A – B	.05 – .02	
K +	A – D	.05 – .02	
m +	A – D	.05 – .02	
m +	C – D	.02 – .01	
M –	A – B	<.01	Total P <.01
M –	A – D	<.01	
M –	B – C	.05 – .02	
Total Movement + or –	A – B	<.01	Total P .02 – .01
Total Movement + or –	A – D	.05 – .02	
CF + or –	B – C	.02 – .01	Total P .05 – .02
CF + or –	C – D	.05 – .02	
C:M +, = or –	A – B	.05 – .02	Total P <.01
C:M +, = or –	A – D	.05 – .02	

TABLE 8. Sex Differences

	Male	Female
N	170	18
Age: Range	23 – 70	25 – 63
Mean	41.3	41.3
S.D.	8.4	11.7
R: Range	10 – 138	16 – 75
Mean	32.3	34.5
S.D.	16.7	16.0
ITS: Range	0 – 28	3 – 22
Mean	11.0	10.7
S.D.	4.8	4.4

No differences are significant.

5. DIFFERENCES BETWEEN UNIVERSITY RANKS

Not all of the subjects recorded their university rank as requested; there was probably some difference in the emphasis given to this. Of those that did so, 8 were instructors, 29 were assistant professors, 28 were associate professors and 34 were full professors. It can be seen that all levels of the faculty were tapped by the sampling. The data are given in Tables 10 and 11.*

* Owing to an error in tabulation, Table 10 contains 4 more records than Table 11. This was not discovered until all the calculations had been made, and it was not thought worth while to recalculate Table 11.

TABLE 9. Comparison of Check List Entries for Sexes

Check List Entry	Women N = 18		Men N = 170	
	N	%	N	%
W% +	3	17	43	25
−	2	11	12	7
BVE	1	6	18	11
Dd% +	12	67	85	50
S +	1	6	25	15
Suc 1 or 11	2	11	23	14
P −	2	11	22	13
O +	5	28	36	21
BV	0	0	12	7
At, Sex +	5	28	40	24
Range − or t	6	34	31	18
F% +	8	45	72	42
−	1	6	7	4
BVE	1	6	39	23
Shading Shock √	8	45	107	63
FK, Fc −	3	17	27	16
c +	2	11	34	20
C′ +	2	11	21	12
K, k +	0	0	25	15
M +	1	6	2	1
−	8	45	78	46
r	5	28	48	28
FM +	1	6	38	22
−	7	39	36	21
m +	2	11	28	16
Total Movement +	0	0	10	6
−	3	17	25	15
Color Shock √	13	73	127	75
FC −	7	39	83	49
CF +	4	22	36	21
−	8	45	54	32
C +	1	6	8	5
Total Color +	1	6	6	4
−	7	39	69	41
C:M +	7	39	49	29
−	6	34	56	33

That there are differences in mean age is, of course, to be expected. Analysis of variance shows that there are no significant differences in the number of responses and in the Inspection Technique Score for the different ranks.

Comparison was also made on R and ITS between the five youngest and the five oldest in each rank, except instructor. These showed no significant differences.

For the comparisons of separate check list entries, only one difference was significant: that between assistant and associate professors in the use of c.

TABLE 10. Comparison of Ranks

	Instructor	Assistant Professor	Associate Professor	Professor
N	8	29	28	34
Age: Range	27 – 37	26 – 54	30 – 63	36 – 70
Mean	31.3	36.1	40.3	49.9
S.D.	3.3	6.9	7.2	8.6
R: Range	16 – 48	16 – 64	12 – 62	15 – 6 7
Mean	28.5	30.1	30.5	31.9
S.D.	12.4	13.0	12.8	14.6
ITS: Range	2 – 19	3 – 21	1 – 19	3 – 21
Mean	10.3	10.1	10.7	11.9
S.D.	6.3	4.5	4.8	4.6

Analysis of Variance: R : $F < 1$
ITS $F < 1$

6. COMPARISON OF FIELDS

The general field of biology has been subdivided into a number of different branches and these, too, have been broken down into homogeneous subgroups. The data on means for these various subdivisions are given in Table 12, and for the Check List in Table 13.

The data for all subgroups under each major subdivision shown in Table 12 were checked by analysis of variance techniques and no significant differences were found for any group,* so that for further analysis only the major divisions were considered. These are anatomy, physiology, zoology, genetics, botany, bacteriology and biochemistry. The three additional groups, cytology, nutrition and veterinary medicine are small and not much has been done with them.

In addition to the usual age, number of responses and Inspection Technique Scores, these groups were also checked on T%, that is, percent of technical responses. This is a category I introduced when studying vertebrate paleontologists; it refers to the responses whose content is technical in nature, such responses as pollinium of a milk weed to the center orange detail in Card X, or plastron of a turtle to part of Card IV. The response was scored T, if it referred to special knowledge in any field of biology, not just to knowledge in the subject's own branch. Generalized responses, such as pelvis, do not merit the T score, but to the same area, pelvis of an armored dinosaur, e.g., would be given the score. The criterion is always the use of specialized knowledge. The scoring of T as such is not usu-

* t for the difference in R for invertebrate zoologists and ecologists was significant at the 5% level. Since N = 4 for the ecologists I have disregarded this.

TABLE 11. Comparison of Ranks on the Check List

Entry on Check List	Instructors N	Instructors %	Assistant Professors N	Assistant Professors %	Associate Professors N	Associate Professors %	Full Professors N	Full Professors %
Total N	8	....	28	....	27	....	32	....
W% +	2	25	5	18	9	33	8	25
−	0	0	2	7	1	4	2	6
BVE	1	13	2	7	3	11	5	16
Dd% +	2	25	15	54	13	48	16	50
S +	2	25	6	21	3	11	5	16
Suc 1 or 11	0	0	1	4	3	11	3	9
P −	3	38	1	4	3	11	4	13
O +	3	38	5	18	6	22	9	28
BV	1	13	5	18	0	0	4	13
At, Sex +	2	25	6	21	6	22	7	22
Range — or t	1	13	2	7	3	11	5	16
F% +	4	50	14	50	9	33	15	47
−	0	0	1	4	2	7	1	3
BVE	2	25	8	29	6	22	9	28
Shading Shock √	5	63	20	71	16	59	20	62
FK, Fc −	3	38	4	14	1	4	7	22
c +	1	13	3	11	10	37	6	19
C′ +	0	0	4	14	5	19	6	19
K, k +	2	25	6	21	5	19	4	9
M +	1	13	1	4	0	0	1	3
−	2	25	10	36	16	59	18	56
r	1	13	10	36	6	22	11	34
FM +	0	0	7	25	5	19	5	16
−	3	38	5	18	5	19	9	28
m +	2	25	4	14	5	19	6	19
Total Movement +	1	13	1	4	1	4	3	9
−	2	25	2	7	3	11	5	16
Color Shock √	5	63	22	78	22	81	23	72
FC −	4	50	11	39	13	48	15	47
CF +	1	13	4	14	5	19	8	25
−	1	13	11	39	9	33	13	41
C +	0	0	1	4	1	4	2	6
Total Color +	1	13	1	4	1	4	0	0
−	2	25	11	39	12	44	15	47
C:M +	1	13	5	18	11	41	11	34
−	2	25	12	43	7	26	13	41

ally difficult; it is, however, frequently difficult to judge form level, and this sometimes has to be referred to specialists in the field.

Comparisons among the major divisions on R, ITS and T% give significant F's only for the latter. The means are lowest for botany and biochemistry and highest for zoology and anatomy. This is, I think, largely the result of the nature of the cards. This category seems to have some significance in individual diagnosis. It is important, therefore, to know what the tendency in each group is in order to estimate the extent of the individual deviation.

Tabulation of the check list entries is given in Table 13. Chi-square analysis of all groups together gave only three entries showing significant differences among the groups. For "range minus" the

TABLE 12. Comparison of Fields

	N	Age Range	Age Mean	Age S.D.	R Range	R Mean	R S.D.	ITS Range	ITS Mean	ITS S.D.	T% Range	T% Mean	T% S.D.
Anatomy													
General	15	27 — 63	43.8	13.2	16 — 79	39.2	21.9	2 — 28	12.9	7.0	0 — 29	16.6	11.3
Embryology	4	31 — 57	40.0	11.1	22 — 60	33.0	18.1	9 — 18	13.8	3.8	5 — 42	20.5	16.7
Total	19	27 — 63	43.0	12.7	16 — 79	37.9	20.8	2 — 28	13.1	6.4	0 — 42	17.4	12.2
Physiology													
Total	26	27 — 64	38.0	9.9	10 — 75	33.8	15.8	4 — 19	10.6	3.7	0 — 31	12.8	8.1
Zoology													
General	13	28 — 67	44.1	11.3	16 — 53	32.8	13.2	7 — 18	11.5	3.6	0 — 49	18.5	13.1
Invertebrate	16	26 — 62	39.6	10.5	13 — 39	25.4	8.1	2 — 18	8.7	3.7	0 — 45	15.3	12.3
Vertebrate	14	32 — 54	40.7	6.3	16 — 62	31.2	13.1	1 — 23	11.6	5.8	0 — 50	22.5	14.2
Ecology	4	31 — 39	36.5	3.8	20 — 67	42.3	19.3	5 — 21	14.8	6.9	10 — 25	19.8	6.8
Total	47	26 — 67	40.9	9.4	13 — 67	30.6	12.7	1 — 23	10.9	4.9	0 — 50	18.7	12.7
Genetics													
General	13	23 — 70	43.6	12.6	20 — 138	39.8	31.5	5 — 18	11.8	3.7	7 — 25	16.3	6.5
Cytogenetics	6	29 — 60	39.8	11.4	17 — 48	30.5	14.2	5 — 11	8.2	2.2	0 — 25	12.0	9.9
Total	19	23 — 70	42.4	12.1	17 — 138	36.8	27.2	5 — 18	10.6	3.6	0 — 25	16.0	5.2
Botany													
General	11	29 — 58	44.3	8.9	18 — 44	27.3	8.4	4 — 21	10.7	5.0	0 — 30	10.5	10.0
Physiological	7	34 — 48	39.6	5.4	18 — 48	31.7	10.6	3 — 14	9.7	3.6	0 — 27	9.6	8.4
Pathological	5	32 — 62	42.8	11.9	15 — 40	28.4	11.3	5 — 19	10.8	5.2	0 — 16	5.4	6.8
Total	23	29 — 62	42.5	8.6	15 — 48	28.9	9.5	3 — 21	10.4	4.5	0 — 30	9.1	8.8
Bacteriology													
General	15	27 — 49	37.3	7.1	14 — 49	29.6	10.9	3 — 20	11.2	5.4	0 — 28	12.1	8.5
Agricultural	8	29 — 53	40.3	10.2	12 — 43	28.6	10.4	0 — 19	10.4	6.5	3 — 50	17.6	14.8
Total	23	27 — 53	38.3	8.2	12 — 49	29.3	10.5	0 — 20	10.9	5.7	0 — 50	14.0	11.1
Biochemistry													
Total	14	30 — 60	43.0	10.2	18 — 91	34.4	21.3	3 — 17	10.2	4.2	0 — 28	8.9	7.1
Nutrition													
Total	6	32 — 54	43.5	9.0	36 — 48	42.7	4.4	3 — 14	8.8	5.0	0 — 11	4.8	3.6
Veterinary Medicine													
Total	8	27 — 57	41.1	12.3	20 — 60	35.6	11.9	5 — 17	11.4	4.3	0 — 13	6.6	4.9
Cytology													
Total	3	34 — 56	41.3	12.7	16 — 21	18.3	2.5	15 — 17	16.0	1.0	0 — 55	25.7	27.7

TABLE 13. Comparison of Fields on Check List Entries

Check List Entry		Anatomy N 19		Physiology N 26		Zoology N 47		Genetics N 19		Botany N 23		Bacteriology N 23		Biochemistry N 14		Nutrition N 6		Veterinary Medicine N 8	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
W%	+	3	16	7	27	12	26	4	21	6	26	8	35	4	29	0	....	0	....
	−	4	21	2	8	1	2	2	11	0	0	1	4	0	0	1	....	2	....
	BVE	5	26	3	12	6	13	0	0	2	9	1	4	3	21	0	....	1	....
Dd%	+	9	47	12	46	23	49	11	58	11	48	10	44	6	43	6	....	8	....
S	+	3	16	1	4	8	17	4	21	5	22	3	13	1	7	0	....	2	....
Suc	1 or 11	5	26	5	19	5	11	2	11	0	0	2	9	2	14	0	....	1	....
P	−	5	26	1	4	10	21	2	11	3	13	3	13	1	7	0	....	0	....
O	+	5	26	3	12	15	32	4	21	5	22	4	17	6	43	0	....	0	....
	BV	1	5	1	4	3	6	2	11	2	9	1	4	2	14	0	....	0	....
At, Sex	+	3	16	10	38	9	19	3	16	4	17	5	22	4	29	2	....	3	....
Range	− or t	7	37	3	12	14	30	2	11	1	14	2	9	1	7	1	....	2	....
F%	+	8	42	11	42	18	38	7	37	9	39	11	48	5	36	4	....	4	....
	−	0	0	2	8	4	9	0	0	0	0	0	0	2	14	0	....	0	....
	BVE	6	32	5	19	12	26	3	16	7	30	4	17	1	7	1	....	2	....
Shading Shock		11	58	18	69	29	62	10	53	16	67	14	61	10	71	0	....	5	....
FK, Fc	−	3	16	2	8	7	15	4	21	2	9	5	22	2	14	0	....	2	....
c	+	6	32	3	12	10	21	2	11	6	26	5	22	3	21	0	....	1	....
C′	+	1	5	2	8	4	9	1	5	6	26	2	9	4	29	2	....	1	....
K,k	+	3	16	2	8	7	15	3	16	2	9	3	13	3	21	0	....	1	....
M	+	1	5	1	4	3	6	0	0	0	0	1	4	0	0	0	....	2	....
	−	13	68	4	15	24	51	10	53	14	61	10	44	5	36	3	....	3	....
	r	6	32	9	35	9	19	6	32	7	30	10	44	3	21	0	....	1	....
	− or r	16	84	13	50	32	68	15	69	18	77	19	83	8	57	3	....	4	....
FM	+	4	21	1	4	10	21	6	32	3	13	10	44	2	14	2	....	2	....
	−	8	42	7	27	11	23	2	11	4	17	2	9	4	29	2	....	2	....
m	+	3	16	8	31	4	9	4	21	4	17	4	17	2	14	0	....	1	....
Total Movement	+	0	0	1	4	6	13	0	0	1	4	0	0	1	7	0	....	1	....
	−	5	26	3	12	11	23	2	11	1	4	1	4	2	14	1	....	1	....
Color Shock		15	69	18	69	33	70	11	58	21	91	18	77	11	78	4	....	6	....
FC	−	10	53	13	50	23	49	11	58	9	39	10	44	6	43	1	....	4	....
	B	0	0	0	0	1	2	1	5	0	0	0	0	0	0	0	....	0	....
CF	+	5	26	5	19	11	23	5	26	4	17	5	22	3	21	0	....	2	....
	−	6	32	10	38	15	32	4	21	9	39	8	35	3	21	2	....	3	....
C	+	2	11	1	4	3	6	0	0	2	9	0	0	0	0	0	....	0	....
Total Color	+	0	0	2	8	2	4	1	5	0	0	3	13	0	0	0	....	0	....
	−	5	26	13	50	17	36	9	47	11	48	10	44	3	21	2	....	3	....
C:M	+	8	42	9	35	13	28	5	26	6	26	7	30	3	21	2	....	3	....
	−	5	26	11	42	12	25	9	47	9	39	9	39	5	36	1	....	4	....
Subj. with bad form entries		7	....	7	....	13	....	4	....	7	....	4	....	4	....	0	....	1	....
Refusals		2	....	0	....	0	....	0	....	0	....	1	....	1	....	0	....	0	....

chi-square was at a P level of 1%; the major contributions to chi-square come from anatomy and zoology, in both of which the minus entries for range are very high. These indicate a considerable restriction, which is most often in terms of excess of animal and/or human responses, primarily the former. This is certainly associated with the high T%, and I think both have the same cause. It would seem probable that the meaning of this is somewhat less that of actual tendency to stereotypy which one would usually infer from such restriction in range than it is of reflection of the easy associations between card and work.

In the case of entries for lack of M responses, which also gave a chi-square at the 1% level, the major contributions to chi-square came from anatomy which had a very high incidence of entries for M– and from physiology which had a very low incidence. It is very probable that this is a reflection of a real difference, the nature of which is perhaps debatable. Do anatomists become anatomists (and these are largely human anatomists) because they are the sort of people who don't produce M responses, or vice versa? And the same question arises for physiologists. The general tendency of the anatomists is more to a reduction of movement than of color responses, and the opposite appears to be true of the physiologists.

In the case of the FM entries, chi-square was run for FM+, FM no entry and FM–, and the P level is 5%. Major contributions are from anatomy and botany, but it is not too clear just what the situation is. Apparently these two groups have fewer deviations in either direction than the others do.

Various paired comparisons were also made by chi-square; only five were significant. The anatomists had more entries than the botanists on W%–; more than the geneticists on poor form on W responses and more irregular succession than the botanists. In each of these instances the other group had no entries. The biochemists had significantly (5% level) more entries for 0 than the physiologists and the bacteriologists significantly more entries (5% level) for Mr than the zoologists (who have more M–). A close study of the table reveals other differences which do not have statistical significance but which should be considered.

From all of these data there is some evidence that there are real differences in the personality characteristic of various subdivisions of biologists. Clearly the demarcation is not sharp in any instance, and the situation is rather one of general tendencies. It is difficult to summarize such intricate material, but the following suggestions may be made. The anatomists stand out most clearly from the others and manifest less intellectual control in general. The physiologists seem to show more free anxiety and more concern with immediately personal problems. The botanists seem on the whole to be a fairly well-adjusted group, rather placid, with no particular tendencies to

deviation. The geneticists are a more colorful group with somewhat more emotional dominance than the others.

7. CORRELATIONS

In view of the rather dispersed differences among these groups, and the more outstanding likenesses, it was felt that this group offered an opportunity to check some major trends, in particular the effects of age. Table 14 gives some age and other correlations.

TABLE 14. Correlations (n= 188)

	R	ITS	T%
Age	+ .015	− .013	+ .081
R		+ .172	− .083
ITS			+ .283*

It is clear from these correlations that age is irrelevant so far as R, ITS and T% are concerned, nor is R significantly related to either ITS or T%. The low but significant positive correlation between high ITS and high T% confirms a clinical impression that the extremely high T%s are given by the less well-adjusted people. It is a form of defense mechanism, which is actually fairly successful.

8. AGE AND M RESPONSES

The M responses are of considerable interest in this group. It would appear that the usual estimate that more than three M responses should be expected from a person of above average intelligence is too high. Number of M ranged from 0 to 12 with a mean for the total group of 3.07. The distribution, however, is a very skewed one. The data give a clear idea of this; only males are included. The difference between the means for 20-29 and 60-79 is significant at the 5% level: between 30-39 and 60-79 at the 1% level. The correlation, however, is −.19, due to the wide distributions for each year, and this is not significant. Nevertheless the trend is clear that M responses tend to drop with age. The point needs further exploration. It is in keeping with Piotrowski's remarks about the less concern of the successful older person with his personal role, as compared to the younger man on the way up. It is possible, therefore, that the standards of expectation of M responses, deviation from which is to be interpreted as significant, should be modified to take account of the age of the subject. It may be, of course, that the situation is not the same with unsuccessful persons.

9. RESEARCH AND TEACHING INTERESTS

The high incidence of shading shock in this and the individual groups, as well as some of the clinical material from the individual studies, raised the possibility of an association between incidence of

* Significant at the 1% level.

shading shock and dominance of research pursuits over teaching. With the cooperation of those who had done the testing, it was possible to classify some of the subjects as predominantly teaching, predominantly doing research, or about equally divided as to time and interest. The results are shown in Table 15. It can be seen that there is no association between incidence of shading shock and research or teaching interests.

TABLE 15. Shading Shock and Research Interests

	Teaching	Both	Research	Totals
Shading Shock	9	14	28	51
No Shading Shock	5	4	27	36
Totals	14	18	55	87

$X^2 = 4.37$, $P < .1$

10. SUMMARY AND CONCLUSIONS

The Group Rorschachs of 188 biologists, members of the faculties of 8 universities and the National Museum, are reported in this paper. The total group was subdivided by various criteria, and analysis of differences gave the following results.

Faculties at individual institutions were found to show in some instances striking differences from others. It is not known whether this may be a reflection of the personalities of the department chairmen or of the general climate of the university, or, more probably, of both. It is, however, clear, that some institutions tend to have more men with rather vivid, and perhaps difficult personalities, and others tend more to a placid, well-adjusted group. These differences between universities are greater than the differences between types of universities (public or private) or than differences between geographical regions.

In general the faculties of private universities tend to somewhat less facility and interest in the social aspects of living, and somewhat more concern with ideational productions and a little more effective general intellectual control than do the faculties of public universities. The difference is chiefly one of general orientation.

Certain differences do appear in comparison of universities from different geographical areas of the country, but the results are not conclusive nor easily summarized. It is probable that this selection of universities is not a good one for this particular comparison.

No sex differences were found.

Differences between university ranks were not found.

Comparison of the different fields of biology brought out some differences which are suggestive. It would appear that in general the botanists were fairly well adjusted without serious strains; that the anatomists differ most from the other groups with a tendency to rather poor intellectual control manifested in a number of ways;

that the physiologists seem to show somewhat more free anxiety and more concern with immediately personal problems, and perhaps have more such problems, and that the geneticists are a more colorful group with somewhat more emotional dominance than the others, of a sort different from that shown by the anatomists.

From correlations it appears that age has no effect on total number of responses, Inspection Technique Score or use of technical responses; that total number of responses is not related to the score or number of technical responses, but that a high score is associated with a high number of technical responses. It was also seen that although number of human movement responses does not correlate significantly with age, the means drop fairly constantly with increasing years.

Perhaps more striking is the consistency with which certain findings appear, however the total group is subdivided. These are the relatively high number of entries for above average use of unusual details, a very high incidence of shading and color shock and a considerable restriction in the use of human movement. Shading shock is not associated with dominance of teaching or research interests.

Further Study of "Suicidal" Configurations in Rorschach Records

MARGUERITE R. HERTZ, PH.D.*

In a previous study (4) fourteen Rorschach configurations suggestive of suicidal trends were subjected to systematic inquiry on the basis of an analysis of the Rorschach records of 229 clinical patients which included 50 suicidal neurotics, 63 suicidal psychotics, 63 non-suicidal neurotics, 53 non-suicidal psychotics, and 96 normal adults.

The configurations[1] consisted of the following:

1. Neur	Neurotic structure
2. Anx	Deep anxiety
3. Depr	Depressed states
4. Constr	Constriction
5. Confl	Active conflict
6. Ob-comp	Obsessive-compulsive personality components
7. Hyst	Hysterical features
8. Idea	Ideational symptomatology
9. Agit	Agitation phenomena
10. Resig	Resignation trends
11. Emot	Sudden and/or inappropriate emotional outburst
12. Withdr	Withdrawal from the world
13. Par	Paranoid tendencies
14. Sex	Chaotic Sexuality

These configurations were determined on the basis of validating studies, clinical material, textbooks, and general clinical experience. In the previous study they are described in detail in order to systematize and objectify the analyses. Reference must be made to the previous study for the detailed explanation. Configurations are utilized rather than isolated patterns or "signs" to assure accuracy in interpreting each Rorschach factor in terms of the whole record, and to preserve the essential configurational nature of the Rorschach interpretation.

When the suicidal and the non suicidal patients were compared with each other and with the total normal group, six configurations reliably distinguished the suicidal from the other groups, – *deep anxiety, depressed states, constriction, agitation, resignation, and sudden emotional outbursts*; two configurations distinguished the suicidal psychotics from other groups,–*neurotic*

* Lecturer, Department of Psychology, Western Reserve University.

[1]Hereafter the symbols designated for each configuration will be used in designating that configuration.

structure and *active conflict*; and two, the suicidal neurotics from other groups,—*ideational symptomatology* and *withdrawal*. Since neurotic structure and active conflict are implied in the neurotic personality structure and *pathological ideation* and *withdrawal* in the psychotic, these ten configurations were taken as reliable "suicidal" indicators.

Four configurations, *obsessive-compulsive features, hysterical features, paranoid trends* and *chaotic sexuality*, were not reliably more frequent in the suicidal records than the non-suicidal, and hence were not included in the battery of configurations indicative of suicidal trends.

It was established further that a combination of six or more of the ten "suicidal" configurations in a record had dangerous potentialities and were ominous of suicidal inclinations. Five strongly suggested the presence of suicidal preoccupation.

The following general conclusions were offered:

> "It is concluded that Rorschach records which exhibit evidence of depressed conditions, neurotic repression, active inner conflict with deep anxiety and pathological ideation should be viewed with alarm as ominous of suicidal inclinations. Or where, in addition to these conditions, the personality shows the effect of anxiety, namely constriction, or where resignation and withdrawal are manifest with lack of interest, shallowness of thought, with restriction of external interests, and with general apathy and passivity, these are signs to be regarded as ominous. Again the sudden intrusion into the record of uncontrolled and inappropriate emotional reactions should cause apprehension, especially where there is evidence of emotional energy being directed toward or against self.
>
> While ideational symptom formation may show in any abnormal record, where there is heavy infusion in the record of pathological content reflecting fears, anxieties, conflicts, obsessions and delusions, especially with dysphoric tones and depressive motifs . . . such content in conjunction with some of the other 'suicidal patterns' should cause prognostic pessimism.
>
> Agitation is likewise an important prognosticator . . . in our clinical experience, the most striking combination of suicidal configurations seems to include depressed states, deep anxiety, active conflict, with considerable agitation and pathological ideation characterized by hypochondriacal bodily delusions and ideas concerning the futility of existence. . , . Anxiety, depression and marked agitation seem to us to be danger signals." (4, pp 55-56).

PROBLEM

In order to investigate further the validity of the Rorschach method in diagnosing suicidal trends, a study was made of 178 consecutive clinical cases whose Rorschach records were analyzed without previous knowledge of case history or of any special problems. Case histories and diagnoses also were written by the psychiatrists or other clinicians without prior knowledge of Rorschach interpretations. By comparing Rorschach results with evidence of suicidal trends in case histories, an attempt was made to establish the validity of the ten configurations reliably established as indicative of suicidal trends in the previous study.

In addition, isolated Rorschach color and shading patterns were analyzed in records definitely established as suicidal and non-suicidal on the basis of both Rorschach analysis and clinical history, to determine their differentiating qualities.

SUBJECTS

A total of 178 clinical patients were studied, 100 consecutive clinical cases referred to the writer for Rorschach examination and 78 cases whose Rorschach records were submitted to the writer for analysis by other clinicians. There were 115 male subjects and 63 female. All subjects were clinical cases, patients of private psychiatrists and patients in institutions, mental hygiene clinics and veteran hospitals. They included a wide variety of patients of different age levels, intelligence and occupational interests. No selection was made as to age, sex, type of problem or status of the case.

Table I shows the various clinical groups represented according to the final diagnosis which was determined by the psychiatrist or the staff of clinicians in attendance. It may be seen that of 154 adults, 67 were classified neurotic, 61 psychotic, and 16 organic. Ten so-called "normal" cases were patients referred by private psychiatrists, who were only mildly involved in their difficulties and whose competence was not seriously reduced. They did not fit into any clinically diagnostic group.

Of the 24 adolescents, 16 were considered neurotic and 8 psychotic. All were referred because of personality problems. The group included 18 primary behavior disorders.

It may be observed that the neurotic cases were variously diagnosed as anxiety, depression, hysteria, obsession-compulsion, and mixed neuroses. Psychotic cases included depression, manic-depressive depression, manic-depressive mania, agitated depression, involutional melancholia, preschizophrenia, and several other varieties of schizophrenia. As may be seen from the table, some of the organic cases showed other complications.

These nosological groupings are not too significant for the present study. It must be remembered they were made by a variety of people. In addition, there is always much overlapping among the symptomatologies of different groups. In the present groups, anxiety and depression could frequently have been interchanged. Mixed neuroses could have included many of the other cases. Compulsive trends were present in many of the other clinical groups. Thus many of the cases could have been placed in different diagnostic classifications.

For practical purposes, however, the writer simply adhered to the final diagnosis as written. For the most part the general classifications of neurotics, psychotics, organics, and psychiatrically "normal" patients corresponded to fairly clear clinical entities. In the present investigation no attempt was made to use the subgroups.

Only the general groupings were utilized. This too had its drawback, of course, because the subgroups embraced a variety of basically different personality patterns which when lumped together could cancel out each other. For our purposes, the general classifications appeared adequate.

PROCEDURE

Throughout the year, the Rorschach records of consecutive clinical patients either examined by or referred to the writer were analyzed without the examiner knowing any of the patients' history. Each of the records were especially studied for the presence of the ten configurations considered indicative of suicidal trends. While these are treated in detail elsewhere, they are briefly summarized[2] to insure an understanding of what these configurations comprised.

1. *Neurotic structure* (neur) includes especially patterns involving shading and color, reduced R, low M, failure and rejection trends, low %F, overvalent material in content, and behavior pointing to insecurity and strain.
2. *Deep anxiety* (anx) is indicated where there is evidence of reaction to or preoccupation with the shading elements of the blots and/or where *shading shock* is manifest.
3. *Depressed states* (depr) are manifested especially by failure and/or rejection trends, low productivity, slow or retarded reaction time, impaired mental approach, high F, low M and C, constrictive *Erlebnistypus,* narrow content, behavior manifestations of sadness, anxiety, and dejection.
4. *Constriction* (constr) is inferred from high % F, low M and C, constricted *Erlebnistypus,* overemphasized control elements, overemphasis of Dr's, high P, low O, narrow content, evasive and non-committal behavior.
5. *Active conflict and deep inner struggle* (confl) may be inferred from repression of color, color shock, repressed or disguised human movement, a combination of M flexor and M extensor, or blocked and frozen M, inanimate movement, midline details, unbalanced W: M, space forms, P failure, content indicating awareness of conflict or symbolic of unconscious conflict, preoccupation with symmetry and general concentration on the spatial characteristics of the blots.
6. *Ideational symptomatology* (idea) refers to content which reflects peculiar, eccentric thinking, fixed ideas, phobias, obsessions, compulsions and delusions, especially where content is dysphoric and depressed in nature. Pathological con-

[2]Scoring symbols herein used are those employed by the writer (2) and appear on the psychogram developed by the writer (3).

tent frequently includes evidence of special bodily preoccupation, sex fears, homosexual fantasies, ideas of insufficiency and incompleteness, castration anxiety, ideas of persecution, of influence and of reference, abnormal religious absorption, delusions of sin and guilt, morbid fatalistic ideas, and the like. This configuration includes not only the content itself but the formal Rorschach characteristics with which it is associated. The extent to which content is different and peculiar (O —), the extent to which it is personal (personal F —), the degree to which it is affect-dictated (Color) or tinged with anxiety (Shading) or associated with autistic activity (M —) reflects ideational symptomatology.

7. *Agitation* (agit) is inferred from overweighting of Dr, low M and C, few shading combinations, poor form, low A, many space forms, low P, high O—, much perseveration, repetition of ideas, self reference, and especially behavior which reveals restlessness and agitation.
8. *Resignation trends* (resig) may be seen in behavior which reflects utter listlessness, indifference, inertia, a "what's-the-use" attitude, in flexor M, many Ch patterns, low C, no spaces, and narrow sterile content.
9. *Sudden and/or inappropriate emotional outbursts* (emot) refer to sudden, spasmodic and unexpected color in a record.
10. *Withdrawal from the world* (withdr) is inferred especially from lack of feeling tone, retarded reaction time, no FC, many F—'s, low %OB, few H, spaces used as holes, O—, low P.

It may be observed that most of the configurations were determined from the entire psychogram. Others were inferred from specific aspects of the record.

In identifying a configuration, it must be emphasized, not all patterns listed had to appear in a record. The examiner had to determine from the entire picture whether or not there was sufficient evidence to conclude that a specific configuration should be recorded. The final determination was of course subjective and in the last analysis depended upon the skill, the training and the intuitive sense of the examiner. This is no departure from the usual procedure in interpreting Rorschach records.

Where configurations were identified in a record, they were written on the psychogram in the code adopted. Where five or more appeared the record was considered suicidal and the symbols S (Ror) representing "suicidal based on the Rorschach analysis" were placed in the upper right hand corner of the psychogram. Where fewer than five configurations appeared, the symbols Non-S (Ror) were recorded for "non-suicidal trend based on the Rorschach analysis." In every case a complete personality study was

made from the Rorschach record prior to consideration of "suicidal" configurations.

As is the general procedure, after the formal analysis was made, the case history of each patient was studied and the case discussed with the psychiatrist or psychiatrists interested, and in many instances at staff meetings. In the case of out-of-town patients whose records had been submitted to the writer, case histories and correspondence had to be relied upon exclusively. Of course, all case histories were written without prior knowledge of Rorschach interpretations.

Where the case history revealed the presence of suicidal talk, suicidal ideas, suicidal attempts or actual suicides, the notation S (Cl H) was placed in the upper left hand corner of the psychogram representing "suicidal according to clinical history." Otherwise the notation made was Non-S (Cl H) for no evidence of suicidal trend in the case history.[3]

The 178 records were analyzed for suicidal and non-suicidal indications according to Rorschach analyses and clinical histories and the extent of agreement studied.

The procedure of using case histories as outside criteria has its disadvantages of course. Material may have been omitted through error. In addition, it is well known in clinical practice that many patients who entertain suicidal ideas conceal them. Others who threaten suicide and who even make feeble suicidal attempts frequently are making gestures to attract attention or to "punish" someone, and are not sincerely suicidal. Again, clinical histories are always subjective. Case histories, however, were so readily available and such convenient criteria for validation that they were used, keeping their limitations in mind.

Suicidal trends were deduced from the case histories only where there was specific evidence of suicidal talk, preoccupation with suicide, suicidal attempts, dramatic suicidal gestures, self-destructive accidents, and actual suicides. In some cases, suicidal ideas were considered half-hearted and insincere. In others, several suicidal attempts had been made. In several cases, aggressive, assaultive and homicidal trends were indicated as well as suicidal ideas. A few of the schizophrenic patients with delusions of grandeur showed anxiety, guilt and suicidal talk. Two of the depressed patients not only attempted suicide but planned to include several of their family to "protect" them. In a few cases, patients referred to suicide in their families and seemed to identify themselves with those who had taken their life.

Every case was scrutinized for written indications of suicidal

[3] Hereafter the symbols S (Ror), Non-S (Ror), S (Cl H) and Non-S (Cl H) will be used in designating the groups to which they refer, — Suicidal-Rorschach, Non-Suicidal-Rorschach, Suicidal-Clinical-History and Non-Suicidal-Clinical History respectively.

ideas and where they appeared, whether they were considered insincere or not, the case was considered suicidal. Where there was no written evidence of suicidal trend, the case was recorded as non-suicidal.

A summary was made of the number of records considered suicidal on the basis of the Rorschach analysis and clinical evidence (Table I). A comparison was then made of the extent of agreement between Rorschach designations and clinical indications. Two methods of analysis were used. In Table II, the summary starts with clinical evidence (Cl H) and Rorschach results are compared with it. In Table III, Rorschach results are indicated first (Ror) and the clinical designations compared with them (Cl H). After these comparisons were made, the cases in which there were discrepancies were subjected to individual analysis.

As a next step, the records which were definitely established as suicidal or non-suicidal on the basis of both Rorschach analysis and clinical evidence, 139 in number, were analyzed for the frequency, the distribution, and the rank order of the "suicidal" configurations (Table IV).

Finally, specific color and shading patterns were isolated for special study in the groups established as suicidal and non-suicidal on both Rorschach and clinical evidence. These included

Color shock
Shading shock
ΣC wt
[FC– (CF + C)] wt
ΣCh wt
ΣSh wt
[FSh – (ChF + Ch)] wt
[FSh – (ShF + Sh)] wt

The color and shading patterns are described in detail in the previous paper (4). The formula [FC– (CF + C)] wt is used to reveal emotional stability, the more positive the score, the more controlled the emotional expression and the more stable the individual; the more negative the score, the more uncontrolled, impulsive and unrestrained the emotions and the greater the instability. This formula may be applied, of course, only when color responses are given.

The anxiety formula, [F Ch – (ChF + Ch)] wt gives an index to the extent to which anxiety is controlled and the degree to which the individual is apathetic, passive, resigned, and inactive. The anxiety formula based on general shading [FSh – (ShF + Sh)] wt, is utilized as a more general anxiety indication reflecting an adaptation which is dictated either by deep anxiety or insecurity and inferiority feelings. The formula reveals the extent to which anxiety is expressed and the degree to which it is controlled.

Comparisons were made of the proportions of the suicidal and non-suicidal records showing color and shading shock and color and shading scores in specific ranges (Tables V–VIII). Where differences occurred, their reliability was established according to Daniel's table of statistically significant differences in observed per cents (1).

RESULTS

Viewing Table I (summary for all cases at the bottom), it may be seen that of the 178 cases studied, 70 were considered suicidal on the basis of data appearing in the clinical history, and 75 were designated suicidal as a result of analysis of Rorschach records. Of the 83 neurotic cases, 37 were considered clinically suicidal while the Rorschach test diagnosed 40 as suicidal. Clinical histories showed 31 of the 69 psychotic cases to be suicidal. The Rorschach analyses also revealed 31 suicidal cases.

Viewing the adult records, of the 67 adult patients classified as neurotic, 31 were designated S and 36 Non-S on the basis of the clinical records, and 33 S and 34 Non-S according to Rorschach configurations. Again, clinical histories showed 29 psychotic adults S and 32 Non-S. The Rorschach diagnosed these psychotics as 28 S and 33 Non-S. With the organics, clinical history showed two of the 16 adult patients to be S while the Rorschach recorded four S and 12 Non-S. Among the adolescent patients, eight were designated S on clinical evidence and 10 on Rorschach evidence.

Of the group considered suicidal clinically, it is of interest to report that 28 were recorded as attempting suicide unsuccessfully and five succeeded in committing suicide. One person classified as neurotic committed suicide, and ten other neurotic patients made unsuccessful attempts. Among the psychotics, four patients succeeded in committing suicide and 18 made unsuccessful attempts.

Some clinicians are of the opinion that suicide is rare in psychoneuroses unless a more serious disintegrating process is at work. The present group gives ample evidence that many neurotic patients have suicidal ideas and even make suicidal attempts. Whether their intentions are sincere or not or whether they suffer a more serious psychotic disorder not recognized, they certainly must be considered potentially suicidal.

Table II compares the suicidal and non-suicidal cases as diagnosed by the Rorschach Method with the clinical evidence in the case history. It may be observed that with the 67 neurotic adults, 84% of those considered suicidal clinically, were so designated in the Rorschach analysis. Again 83% of the 61 adult psychotic patients suicidal according to their clinical records showed similar designation in the Rorschach analyses. The two organic adult patients whose history showed them to be suicidal were considered suicidal in the Rorschach interpretation. Thus of the 154 adult

patients, 52 or 84% of those showing evidence of suicidal trends in the clinical history were designated suicidal on the Rorschach.

The subgroups of the adolescents had so few cases that percentages are of little significance. It may be observed that six of the eight adolescents with suicidal inclinations were designated Suicidal on their Rorschach records.

Viewing the totals for all cases at the bottom of Table II, 81% of the neurotics and 84% of the psychotics with evidence of suicidal trends in their histories were revealed as suicidal in the Rorschach analyses. Again, 83% of the 70 cases clinically suicidal were also considered suicidal risks by the Rorschach analysis.

Studying all the cases considered non-suicidal because of lack of any suicidal indications in their clinical histories, 91 or 84% were designated Non-S on their Rorschach records. The same Non-S designation was applied to 29 or 81% of the 36 neurotic adult patients, to 28 of the 32 psychotic adult patients and to 12 of the 14 organic adult patients, all of whom were not considered suicidal clinically. All ten patients classified "normal" were revealed as Non-S in the Rorschach analysis. Of the 92 adults considered non-suicidal according to clinical history, 79 or 86% were similarly designated on their Rorschach records.

It may also be observed in Table II that seven of the ten Non-S neurotic adolescents and five of the six Non-S psychotic adolescents were similarly designated on the Rorschach record. Thus 12 of the 16 clinically non-suicidal adolescents or 75% of the group were designated in similar manner by the Rorschach Method.

Viewing the totals for the clinically non-suicidal patients, it may be seen that 78% of the neurotics, 87% of the psychotics and 86% of the organics and 84% of all cases were similarly revealed in the Rorschach analyses.

Viewing the total agreement between clinical evidence and Rorschach analysis, it may be observed from Table II that for adults, 82% of the neurotics, 85% of the psychotics, 88% of the organics, and in general, 85% of all adult cases showed agreement between clinical evidence and Rorschach analysis as to suicidal or non-suicidal status. For adolescents, 69% of the neurotics, 88% of the psychotics, and in general, 75% of all adolescent cases, showed agreement. Thus it may be seen that a higher percentage of adult cases than adolescent cases showed agreement between clinical evidence and Rorschach diagnosis.

Considering all cases together, adult and adolescent, it may be seen that 80% of all neurotics, 86% of all psychotics, 88% of all organics, and in general, 84% of all clinical cases showed agreement between clinical evidence and Rorschach diagnosis as to suicidal or non-suicidal indications.

Studying Table II for the cases in disagreement, it may be observed that with the adults the Rorschach method failed to detect 10 of the 62 clinically suicidal adult patients, 5 neurotic and 5 psychotic. Again, it failed to detect two of the eight clinically suicidal adolescent patients. On the other hand, the Rorschach designated as suicidal 13 of the 92 adult patients and four of the 16 adolescent patients who showed no clinical evidence of suicidal trend.

The results are interesting when one begins with the Rorschach analyses and compares the clinical evidence with them. This is presented in Table III. Studying the adult cases, it may be observed that 80% of the cases designated Suicidal on the Rorschach records were substantiated by their clinical history. With the neurotic adults, Rorschach suicidal designations corresponded to clinical evidence in 79% of the cases, with the psychotic adults, in 86% of the cases. Thus, greater agreement is noted with the psychotic adults than with the neurotic.

With the adolescent group, of the ten designated suicidal in the Rorschach analysis, six showed suicidal trend in their histories. Of the 16 neurotic adolescents, seven were considered suicidal in the Rorschach analysis. Only four of these, however, showed clinical evidence of suicidal intent. Again, two of the three psychotic adolescents designated suicidal on the Rorschach record were clinically suicidal. Thus it may be noted that the percentage of cases diagnosed suicidal by the Rorschach Method and substantiated by the clinical evidence is much less for adolescents (60%) than for adults (80%).

Viewing the totals at the bottom of Table III, it may be noted that with all neurotic cases, 30 of the 40 suicidal Rorschach cases or 75% of the group were suicidal clinically. The percentage of cases in which there is agreement between Rorschach and clinical evidence is higher for psychotics, 84%. It appears that more psychotics than neurotics were correctly diagnosed by the Rorschach Method as suicidal, if clinical evidence is taken as the criterion. In general, of the 75 cases designated Suicidal by the Rorschach Method, 58 or 77% showed clinical evidence of suicidal trends.

Studying the cases designated Non-suicidal in the Rorschach analysis, agreement with clinical designation is seen in 85% of both the neurotic and the psychotic adults. Of 14 non-suicidal adolescents according to Rorschach designation, 12 or 85% are similarly designated clinically.

According to the totals, 88% of all cases considered non-suicidal in the Rorschach analysis gave no clinical evidence of suicidal trends.

Comparing Tables II and III, it is of interest to observe that while 83% of the cases considered suicidal clinically were diag-

nosed suicidal by the Rorschach Method, only 77% of the cases diagnosed suicidal by the Rorschach gave evidence of suicidal trends. Thus, if clinical evidence of suicidal intent be taken as a criterion of suicidal trend, it can be concluded that the Rorschach Method detects suicidal trends with a high degree of validity. Again, the Rorschach Method appears to detect more suicidal risks than are recognized by overt symptoms and behavioral indications. If the Rorschach Method be considered a valid instrument in detecting suicidal intent, it may be viewed as a good prognostic instrument.

Analysis of the records of the 17 patients suicidal according to Rorschach analysis but with no evidence of suicidal intent in the case histories, revealed five showing seven of the "suicidal" configurations, five showing six configurations, and seven showing five configurations. Thus ten records showed a number of significant configurations well within the range of six, which was established as reliably indicative of suicidal trends.

Of the cases designated suicidal on the Rorschach but not substantiated by clinical evidence, one patient was recorded as "evasive on the subject of suicide." Another entertained no suicidal ideas himself, but worried a great deal about suicide in his family since his father had committed suicide. In two other records, while there was no direct admission of suicidal ideas, there was much evidence of self-reproach, self-repudiation and self-condemnation. Again with one of the manic-depressive manics considered suicidal on the Rorschach, the case history recorded fears, anxiety, tension and agitation as well as the characteristic aggressive self-assertion, overactivity and elation. While these cases were not included in the suicidal series because there was no specific notation of suicidal trend, they might have been suicidal.

Again, two of the patients whose clinical histories showed suicidal trends but who were not so diagnosed on the Rorschach may not have been seriously suicidal. While suicidal talk was indicated in the record, it was not regarded seriously by the psychiatrists attending them. One preschizophrenic patient was recorded as "dramatic, sending notes to scare people and making a feeble suicidal attempt by swallowing a dozen aspirin tablets." The other, a manic-depressive depressed in remission made "suicidal gestures."

On the other hand, the Rorschach diagnosed four adolescents as suicidal although the case histories did not substantiate this. All were delinquents with a history of lying, stealing and sex behavior. We might offer the hypothesis that unstable emotional energy was externalized into anti-social acts rather than directed inwardly against self.

It is of interest to note that in three of the suicidal cases on which there was agreement between clinical report and Rorschach

diagnosis, the psychiatrist thought that the suicidal gestures were insincere, and that the suicidal talk was "dramatic." This would suggest the value of the Rorschach in helping decide the seriousness of suicidal threats in equivocal cases.

Despite the fact that the Rorschach suicidal and non-suicidal groups were selected on the basis of the presence of five or more of the suicidal configurations, it was of interest to study these configurations in the suicidal and non-suicidal cases where there was agreement between clinical report and Rorschach analysis. There were 149 cases in agreement, 58 suicidal and 91 non-suicidal.

Table IV gives the summary of the frequency of each of the "suicidal" configurations for both suicidal and non-suicidal groups. It may be observed that 95% of the Suicidal group showed *deep anxiety* and *depressed conditions*, 91%, *neurotic structure* and *active conflict* and 81% *pathological ideation*. Again, 55% showed *constriction* and 53% *emotional withdrawal*. A lesser proportion showed the other configurations. *Sudden emotional reaction* appeared in 33% of the suicidal cases, *agitation phenomenon* in 31% and *resignation* in 29% of the group.

On the other hand, 58% of the non-suicidal group showed *deep anxiety*, 56% *neurotic structure*, *active conflict* and *pathological ideation*. A much lesser proportion showed the other configurations.

Table IV likewise shows the rank order which obtains when the suicidal configurations are studied in the suicidal group.

Rank 1. anxiety, depressed states
2. neurotic structure, active conflict
3. ideational symptomatology
4. constriction
5. emotional withdrawal
6. sudden emotional outburst
7. agitation phenomenon
8. resignation

In the previous study made (4) the same configurations were among the first four ranks.

PART II.

Specific color and shading patterns were next analyzed in the records of the suicidal and non-suicidal patients so diagnosed in both Rorschach analyses and clinical report, to determine specific "suicidal" scores and to test out certain hypotheses which have been advanced in the literature. The cases selected for this special study included 58 suicidal and 81 non-suicidal, 139 in all. The ten so-called "normal" cases were not included in this part of the study to avoid overweighting the non-suicidal group and to make the groups comparable in number.

Rabin presents the interesting hypotheses that "a combination of color and shading shock should be considered by examiners as ominous warning of two facets of aggression, homicide and suicide" and that "when the dysphoric shading responses appear in a record and thus are brought to the surface rather than repressed, the danger of the dysphoric trend being translated into overt suicidal acts is lessened" (5).

Tables V through VIII summarize some of the results which were obtained when the proportions of the suicidal and the non-suicidal groups giving various color and shading scores in specific ranges were compared. In each table are recorded the number and percentage of each group showing the score or pattern indicated at the top of the column. The differences between the proportions of each of the groups are computed (D) and their reliability estimated on the basis of Daniel's table of statistically significant differences in observed per cents· (1). The differences which are significant are starred.

Table V compares the proportions of the suicidal and non-suicidal patients whose Rorschach records showed evidence of color and shading disturbances and specific color and shading scores. Results are recorded for the following Rorschach patterns:

Shock
- Color shock (C)
- Shading shock (Sh)
- Both C and Sh shock

ΣC wt
- no color given (no C)
- ΣC wt equals 0.5 or less
- 1.0 or less
- 2.0 or more

ΣCh wt
- no Ch given
- ΣCh wt equals 0.0 to 1.5
- 2.0 or less
- 2.0 or more

ΣSh wt
- no Sh given
- ΣSh wt equals 1.5 or less
- 3.0 or more

It may be observed that no significant results were obtained for many of the color and shading scores. This was expected, of course, because each individual score is significant only in terms of the entire constellation of patterns and is of no real value when taken alone. Some few significant differences between groups were obtained, however. Even when positive results are obtained, they

must be interpreted most cautiously to prevent erroneous over-evaluation.

Reliably more S than Non-S patients show color shock and both color and shading shock. This no doubt reflects the greater disturbance, the strain and tension, and the deep and basic anxiety which pervade the personalities of the suicidal as compared with the non-suicidal. It is important to note, however, that when the clinical groups are broken down into neurotic and psychotic groups, these findings do not hold for the neurotics. Large proportions of both the suicidal and non-suicidal groups showed color shock as would be anticipated with neurotics. Again, 77% of the suicidal neurotics and 75% of the non-suicidal neurotics showed both shading and color shock. In neurotic personalities, then, both color and shading shock do not differentiate suicidal from non-suicidal patients. Rabin's hypothesis, therefore, is only partially confirmed. The present study indicates that with psychotic patients, the presence of both color and shading shock occurs reliably more frequently in suicidal than non-suicidal patients. Both color and shading shock therefore may be considered by examiners as a warning sign of suicidal intent when they are dealing with psychotics.

Studying total color output in terms of various ranges of scores, reliably more S than non-S patients give low color, i.e. 0.5 or less and 1.0 and less ΣC wt. Again, reliably more non-S than S patients give 2.0 or more ΣC wt. Thus fewer suicidal than non-suicidal are motivated by direct environmental stimuli, and more repress emotional expression and withdraw from the environment.

No reliable differences are obtained where groups are compared for ΣCh values. No differences appear when 2.0 or less or 2.0 or more ΣCh wt. are studied. If dysphoric shading is represented in Rabin's scoring system by Y (our Ch), this finding would refute his hypothesis that where dysphoric shading appears in a record, the danger of the dysphoric trend being translated into overt suicidal acts is lessened.

Similarly, no reliable differences are observed between S and non-S Groups when the Sh scores are computed. The table shows the findings for 1.5 or less, and 3.0 or more. A tendency may be noted, however, for more S than non-S patients to give 3.0 or more ΣSh wt. This would suggest an undercurrent of anxiety ever present in suicidal patients.

Table VI presents some of the results obtained when the Rorschach formula for emotional stability is used, [FC-(CF+C)]wt. The following scores are represented on the table,—scores between +0.5 and −0.5, minus scores, scores −2.0 or less and −3.0 or less.

It may be observed in the table that no significant differences are obtained between the proportions of the groups scoring between

+0.5 and −0.5. When all minus scores are grouped, however, more of the Non-S than the S show minus scores. This is true for both the neurotic and the psychotic groups. Again, more of the Non-S than the S patients give −3.0 or less. Thus more of the non-suicidal are excitable, impulsive, and aggressive. These findings would suggest that aggression which is lived out upon the external world as in the non-suicidal patients is blocked or turned in upon self in the suicidal patients. The finding that fewer suicidal patients are excitable and impulsive does not, of course, preclude the possibility that suicidal patients may show sudden and impulsive acts.

Table VII presents results for some scores for the anxiety formula based on Ch values, [FCh− (ChF+Ch)]wt. Scores recorded include those between +0.5 and −0.5, minus scores, no score or minus scores, scores −1.0 or less, −2.0 or less and −3.0 or less. It is of interest to note that few significant differences appear between the S and the Non-S groups. A trend may be observed for more S than Non-S neurotics to score −1.0 or less. The reverse trend, however, is noted for the psychotic patients, fewer S than Non-S psychotics scoring −1.0 or less and even −2.0 or less. It is suggested then that more suicidal than non-suicidal neurotics show this overwhelming deep and oppressive anxiety, while this is not true for suicidal psychotics. In fact, it is more true of non-suicidal psychotics. If this finding be substantiated, it could be said that uncontrolled expression of deep anxiety is a good prognostic sign in psychotics but poor sign in neurotics. Thus Rabin is again partially substantiated. He suggests that when dysphoric shading appears in a record, the danger of the dysphoric trend being translated into overt suicidal acts is lessened. This might be true for psychotic patients, when uncontrolled Ch values predominate.

In Table VIII, some of the results are recorded for the anxiety formula, when the general shading values are used, i.e. [FSh−(ShF+ Sh)] wt. Scores between +0.5 and −0.5, minus scores, no score or minus scores, scores −1.0 or less and −2.0 or less are recorded.

The general shading responses, Sh, represent a timid, cautious, hampered kind of adaptability. They indicate anxiety, uncertainty, a general uneasiness and a feeling of being exposed to danger. The more plus the Sh formula, the more unfree, cautious, and guarded the individual in a controlled, realistic and rational fashion, however, whether the anxiety takes the form of cautious peripheral feelings or the deeper and more central moods. The more minus the score, the more uncontrolled and irrational the anxiety, whether it be conditioned by inferiority consciousness and insecurity, or dictated by deep anxiety and subject to depression.

It may be observed in the table that reliably fewer S than Non-S patients show no score or minus score, but this appears to be true only for neurotic patients. Again, a trend is indicated for more

Non-S neurotics to score −1.0 or less. Thus for neurotics, it appears that more non-suicidal than suicidal patients do not express anxiety of any kind, (sensitivity, inferiority, insecurity, resignation, passivity, or depression) or tend to express it in an irrational and uncontrolled fashion. Among neurotics, no expression or uncontrolled expression of anxiety might be considered a good prognostic sign.

Peculiarly, more suicidal than non-suicidal patients score +1.0 or more and +2.0 or more. This appears to be true for neurotics (+1.0 or more) and psychotics (+2.0 or more). It may appear incongruous that F predominates more in the Sh patterns of the suicidal than in the non-suicidal. Empirically one would expect suicidal patients to be more overwhelmed by insecurity and deep anxiety and less controlled. F Sh indicates self control before others, a tendency "toward a fundamentally depressive disposition which the subject tries to control in the presence of others (6)." It reflects sensitive, watchful adaptability, prudent, scrupulous and guarded attitudes, conditioned by insecurity and feelings of inferiority or deep anxiety. It points to self-critical awareness. Too many mean abnormal sensitivity to these unpleasant moods.

The higher plus scores in the suicidal, then, may reflect the extreme awareness of personal disturbance, abnormal sensitivity to unpleasant moods, severe self-evaluation with implications of feelings of inadequacy and perhaps frustration as is implied in self-evaluation. Again, the controlled aspects may reflect the facade of normality which so many of the suicidal patients display. Of course, another plausible explanation, may be that the Sh pattern is really distorted because it is considered without regard to its variations and hence is a conglomerate measure.

Summary

The ten Rorschach configurations established as reliably reflecting suicidal trend were again subjected to a study on the basis of a group of 178 consecutive clinical patients, whose records were analyzed without previous knowledge of histories, problems, or psychiatric diagnoses. Rorschach records were differentiated into suicidal and non-suicidal groups based on the incidence of five or more of the significant "suicidal" configurations. The records were similarly divided into suicidal and non-suicidal on the basis of written evidence in the clinical histories, and the extent of agreement was studied between the Rorschach results and clinical evidence.

Results indicate a high degree of agreement between those patients considered suicidal on the basis of Rorschach analysis and those whose clinical history gave evidence of suicidal ideas or suicidal attempts. Of 70 patients suicidal according to clinical evidence, 83% were so designated by Rorschach analysis. Thus according to present results, it may be said that the Rorschach

Method detects a large proportion of patients who are clinically suicidal. Of the 108 non-suicidal patients whose clinical histories failed to disclose any suicidal trend, 84% were so designated on the Rorschach records. In general, 84% of all the clinical cases showed agreement between Rorschach diagnosis and clinical evidence as to suicidal and non-suicidal status. A higher percentage of adult than adolescent cases and a higher proportion of the psychotic than the neurotic patients showed agreement between suicidal and non-suicidal designations on the Rorschach and in clinical history.

Comparing Rorschach diagnosis with clinical evidence, 80% of the cases diagnosed Suicidal on the Rorschach were confirmed by clinical evidence. With the neurotic adults, 79% of the cases, with the psychotic adults, 86% of the cases designated suicidal on the Rorschach were substantiated by clinical evidence. Again, more psychotics than neurotics were diagnosed suicidal on the Rorschach and confirmed by clinical evidence. While the number of cases for adolescents is small, the Rorschach showed less agreement with clinical evidence with adolescents than with adults.

Because of the high agreement between Rorschach diagnoses and clinical evidence, it may be concluded that the Rorschach Method detects suicidal intent with a high degree of validity, if clinical evidence is taken as the criterion.

Viewing the two comparisons, Rorschach with clinical evidence, and clinical evidence with Rorschach, the percentage of cases clinically suicidal and also diagnosed suicidal by the Rorschach is higher than the proportion of cases diagnosed suicidal by the Rorschach and showing clinical evidence of suicidal trend. When suicidal trends are overt and evident, then, the Rorschach Method appears to detect them. On the other hand, it might be said that the Rorschach detects more suicidal risks than are recognized by behavioral signs or overt symptoms. In this respect, the method again shows its prognostic value.

Analysis of the 58 Rorschach suicidal records on which there was agreement showed the ten "suicidal" configurations to have the following rank order,—

deep anxiety, depressed states
neurotic structure, active conflict
ideational symptomatology,
constriction
emotional withdrawal
sudden emotional outburst
agitation phenomena
resignation

It is again established that Rorschach records which give evidence of depressed conditions, neurotic structure with active conflict and deep anxiety should be considered suicidal. Constriction of interests, of ambition, and of energy output is likewise signifi-

cant. Agitation in the form of tension, restlessness, and overactivity or resignation showing up as listlessness, inertia, indifference, passivity, and inactivity are important in suggesting suicidal intent. Similarly, emotional withdrawal reflecting deficiency in emotional rapport with people, loss of initiative, and preoccupation with self is highly revealing. In addition, sudden emotional reactions point not only to violent aggression which may be directed outwardly but to aggression which may be directed inwardly resulting in attempts at self-destruction. Finally, content with dysphoric tones and depressive motifs complicates the picture and merits investigation for suicidal trends.

Analysis of individual Rorschach color and shading patterns reveals few really significant trends.

1.—More suicidal than non-suicidal psychotic patients show color shock in combination with shading shock, reflecting the insecurity, the tension, the deep and oppressive anxiety which pervades the personalities of the suicidal psychotic patients. The presence of both color and shading shock may be considered ominous signs, warning of suicidal intent, in psychotic records.

2.—More suicidal than non-suicidal patients give low color scores, reflecting the emotional constriction and withdrawal of the former.

3.—No significant differences are obtained between suicidal and non-suicidal groups in terms of the ΣChwt or the ΣSh wt values. It is suggested that more suicidal than non-suicidal patients give 3.0 or more ΣSh wt, suggesting an ever present undercurrent of anxiety in the former.

4.—Fewer suicidal than non-suicidal patients show minus scores and fewer give −3.0 or less on the stability formula, [FC− (CF+ C]wt. This suggests that outwardly directed aggressiveness and hostility are less characteristic of suicidal cases and hence, in pathological pictures, such trends would appear to be good prognostic signs.

5.—It is suggested that more suicidal than non-suicidal neurotics but fewer suicidal than non-suicidal psychotics score −1.0 or less in the anxiety formula based on Ch values. Thus among neurotics, more suicidal neurotics are overwhelmed by deep and oppressive anxiety while among psychotics, such indications would be considered good prognostic signs.

6.—More suicidal than non-suicidal patients show plus scores in the anxiety formula based on the general Sh values. Thus it may be concluded that suicidal patients are prone to be acutely aware of their personal disturbances, are given over to self-evaluation and are highly sensitive to their feelings of inadequacy and frustration. Suicidal patients are more prone to present a facade of controlled feelings.

7.—While the few positive findings with individual color and shading scores are of interest, they should not be overevaluated

since they are artificially removed from the context of the total personality.

Conclusions

With many mental disorders suicide is probably one of the greatest dangers. In many depressed conditions, suicide is probably the greatest drawback to recovery. The hazard is all the greater because so many suicidal patients present a deceptively normal exterior so that the average person does not anticipate suicidal acts. Any tool, therefore, which will detect suicidal trends in the personality and which will help reduce suicidal risk is of course valuable.

The Rorschach Method is advanced as such a diagnostic and predictive instrument. In the present study ten Rorschach configurations are identified as an aid in predicting proneness to suicide.

The Rorschach is thus of extreme value in cases where overt behavioral signs are absent. In equivocal cases, it may confirm or contradict expression of suicidal intent on the part of patients.

It must be emphasized, however, that determination of the configurations established as reliably significant of suicidal trends is largely subjective and that while configurations were carefully and systematically described, final identification of a configuration was made through the process of insight. Further they were identified by one person. It is suggested, therefore, that these configurations be subjected to further experimentation by other competent Rorschach examiners. Validity of the diagnostic conclusions herein made can be established only by agreement among competent Rorschach examiners. When this is done, the Rorschach Method will fulfill another important need.

BIBLIOGRAPHY

1. Daniels, C. Statistically significant differences in observed per cents. *J. Appl. Psychol.*, 1940, 24, 826-830.
2. Hertz, M. R. The scoring of the Rorschach Ink-blot Method as developed by the Brush Foundation. *Rorschach Research Exchange,* 1942, 6, 16-27.
3. Hertz, M. R. *The Rorschach Psychogram* Revised, 1946. Department of Psychology, Western Reserve University, Cleveland, Ohio.
4. Hertz, M. R. Suicidal configurations in Rorschach records. *Rorschach Research Exchange and Journal of Projective Techniques,* 1948, 12, 1-56.
5. Rabin, A. I. Homicide and attempted suicide: A Rorschach study. *Amer. J. Orthopsychiatry,* 1946, 16, 516-524.
6. Rorschach, H. and Oberholzer, E. The application of the form interpretation test. Chapter VII, Pp 184-216, in *Psychodiagnostics* by H. Rorschach, 1942, Hans Huber, Bern, Switzerland.

TABLE I. Clinical Cases Studied for Suicidal Trends

	M	F	N	Designated S		Designated Non-S	
				Cl H	Ror	Cl H	Ror
ADULTS							
Neurotics							
Anxiety	12	7	19	8	9	11	10
Depression	2	4	6	5	6	1	0
Hysteria	7	4	11	3	4	8	7
Obsession-Compulsion	11	8	19	9	10	10	9
Mixed Neuroses	8	4	12	6	4	6	8
Total	40	27	67	31	33	36	34
Psychotics							
Depression	1	0	1	1	1	0	0
Manic-Depressive Depression	2	5	7	7	7	0	0
Manic-Depressive Mania	2	3	5	1	2	4	3
Agitated Depression	1	2	3	3	2	0	1
Involutional Melancholia	1	1	2	2	2	0	0
Preschizophrenia	9	1	10	4	3	6	7
Latent Schizophrenia	1	0	1	1	1	0	0
Schizophrenia —							
Simplex	2	2	4	0	0	4	4
Depression	3	3	6	4	4	2	2
Catatonia	3	1	4	2	2	2	2
Paranoid	14	2	16	4	4	12	12
Organic	2	0	2	0	0	2	2
Total	41	20	61	29	28	32	33
Organics							
Organic brain involvement	2	1	3	0	0	3	3
Organic brain involvement,							
Neurosis	10	0	10	1	2	9	8
Hysteria	1	0	1	0	1	1	0
Depression	1	0	1	1	1	0	0
Alcoholism	1	0	1	0	0	1	1
Total	15	1	16	2	4	14	12
"Normal" Cases	3	7	10	0	0	10	10
Total: Adults	99	55	154	62	65	82	89
ADOLESCENTS							
Neurotics							
Auxiety	3	1	4	2	4	2	0
Depression	2	1	3	3	2	0	1
Hysteria	1	0	1	0	0	1	1
Obsession-Compulsion	1	2	3	0	1	3	2
Mixed Neuroses	3	2	5	1	0	4	5
Total	10	6	16	7	7	10	9
Psychotics							
Preschizophrenia	3	2	5	2	3	3	2
Schizophrenia, Paranoid	3	0	3	0	0	3	3
Total	6	2	8	2	3	6	5
Total: Adolescents	16	8	24	8	10	16	14
All Cases							
Neurotics	50	33	83	37	40	46	43
Psychotics	47	22	69	31	31	38	38
Organics	15	1	16	2	4	14	12
"Normal"	3	7	10	0	0	10	10
Total	115	63	178	70	75	108	103

KEY

M — Male
F — Female
N — Number
S — Suicidal
Non-S — Non-Suicidal
Ror — Rorschach
Cl H — Clinical History

TABLE II. Comparison of Cases Designated Suicidal and Non-Suicidal in (a) Clinical History and (b) Rorschach Analysis

	N	S (Cl H)	Ror. Desig. S	Ror. Desig. Non-S	% Agreement S (Ror.): S (Cl H)	Non-S (Cl H)	Ror. Desig. S	Ror. Desig. Non-S	% Agreement Non-S (Ror.): Non-S (Cl H)	Total Agreement No.	Total Agreement %
Adults											
Neurotics											
Anxiety	19	8	6	2	....	11	3	8	....	....	....
Depression	6	5	5	0	....	1	1	0	....	....	....
Hysteria	11	3	3	0	....	8	1	7	....	....	....
Obsession-Compulsion	19	9	8	1	....	10	2	8	....	....	....
Mixed Neuroses	12	6	4	2	....	6	0	6	....	....	....
Total	67	31	26	5	84	36	7	29	81	55	82
Psychotics											
Depression	1	1	1	0	....	0	0	0	....	....	....
Manic-Depressive Depression	7	7	7	0	....	0	0	0	....	....	....
Manic-Depressive Mania	5	1	1	0	....	4	1	3	....	....	....
Agitated Depression	3	3	2	1	....	0	0	0	....	....	....
Involutional Melancholia	2	2	2	0	....	0	0	0	....	....	....
Preschizophrenia	10	4	2	2	....	6	1	5	....	....	....
Latent Schizophrenia	1	1	1	0	....	0	0	0	....	....	....
Schizophrenia, Simplex	4	0	0	0	....	4	0	4	....	....	....
Schizophrenia, Depressive	6	4	3	1	....	2	1	1	....	....	....
Schizophrenia, Catatonia	4	2	2	0	....	2	0	2	....	....	....
Schizophrenia, Paranoid	16	4	3	1	....	12	1	11	....	....	....
Schizophrenia, Organic	2	0	0	0	....	2	0	2	....	....	....
Total	61	29	24	5	83	32	4	28	88	52	85
Organics											
Organic Mental Disorder	3	0	0	0	....	3	0	3	....	....	....
Organic Disorder, Neurosis	10	1	1	0	....	9	1	8	....	....	....
Organic Disorder, Hysteria	1	0	0	0	....	1	1	0	....	....	....
Organic Disorder, Depression	1	1	1	0	....	0	0	0	....	....	....
Organic Disorder, Alcoholism	1	0	0	0	....	1	0	1	....	....	....
Total	16	2	2	0	....	14	2	12	86	14	88
"Normal" Cases	10	0	0	0	....	10	0	10	100	10	100
Total: Adults	154	62	52	10	84	92	13	79	86	131	85

TABLE II. *(Continued)*

Adolescents											
Neurotics											
Anxiety	4	2	2	0	----	2	2	0	----	----	----
Depression	3	3	2	1	----	0	0	0	----	----	----
Hysteria	1	0	0	0	----	1	0	1	----	----	----
Obsession-Compulsion	3	0	0	0	----	3	1	2	----	----	----
Mixed Neuroses	5	1	0	1	----	4	0	4	----	----	----
Total	16	6	4	2	67	10	3	7	70	11	69
Psychotics											
Preschizophrenia	5	2	2	0	----	3	1	2	----	----	----
Schizophrenia, Paranoid	3	0	0	0	----	3	0	3	----	----	----
Total	8	2	2	0	----	6	1	5	83	7	88
Total: Adolescents	24	8	6	2	75	16	4	12	75	18	75
All Cases											
Neurotics	83	37	30	7	81	46	10	36	78	66	80
Psychotics	69	31	26	5	84	38	5	33	87	59	86
Organics	16	2	2	0	----	14	2	12	86	14	88
"Normal"	10	0	0	10	100	10	0	10	100	10	100
Total	178	70	58	22	83	108	17	91	84	149	84

KEY

S	Suicidal
Non-S	Non-Suicidal
Ror	Rorschach
Cl H	Clinical History
Desig	Designation
Total Agreement	(S (Cl H) = S (Ror.)) + (NonS (Cl H) = Non-S (Ror.))
% Total Agreement	S (Ror.) + Non-S (Ror.) in agreement with Cl H: S (Cl H) + Non-S (Cl H)

TABLE III. Comparison of Cases Designated Suicidal and Non-Suicidal in (a) Clinical History and (b) Rorschach Analysis

	N	S (Cl H)	Cl H Desig. S	Cl H Desig. Non-S	% Agreement S (Cl H): S (Ror.)	Non-S (Ror.)	Cl H Desig. S	Cl H Desig. Non-S	% Agreement Non-S (Cl H): Non-S (Ror.)	Total Agreement No.	Total Agreement %
Adults											
Neurotics											
Anxiety	19	9	6	3	....	10	2	8	....	....	....
Depression	6	6	5	1	....	0	0	0	....	....	....
Hysteria	11	4	3	1	....	7	0	7	....	....	....
Obsession-Compulsion	19	10	8	2	....	9	1	8	....	....	....
Mixed Neuroses	12	4	4	0	....	8	2	6	....	....	....
Total	67	33	26	7	79	34	5	29	85	55	82
Psychotics											
Depression	1	1	1	0	....	0	0	0	....	....	....
Manic-Depressive Depression	7	7	7	0	....	0	0	0	....	....	....
Manic-Depressive Mania	5	2	1	1	....	3	0	3	....	....	....
Agitated Depression	3	2	2	0	....	1	1	0	....	....	....
Involvement Melancholia	2	2	2	0	....	0	0	0	....	....	....
Preschizophrenia	10	3	2	1	....	7	2	5	....	....	....
Latent Schizophrenia	1	1	1	0	....	0	0	0	....	....	....
Schizophrenia, Simplex	4	0	0	0	....	4	0	4	....	....	....
Schizophrenia, Depressive	6	4	3	1	....	2	1	1	....	....	....
Schizophrenia, Catatonia	4	2	2	0	....	2	0	2	....	....	....
Schizophrenia, Paranoid	16	4	3	1	....	12	1	11	....	....	....
Schizophrenia, Organic	2	0	0	0	....	2	0	2	....	....	....
Total	61	28	24	4	86	33	5	28	85	52	85
Organics											
Organic Mental Disorder	3	0	0	0	....	3	0	3	....	....	....
Organic Disorder, Neurosis	10	2	1	1	....	8	0	8	....	....	....
Organic Disorder, Hysteria	1	1	0	1	....	0	0	0	....	....	....
Organic Disorder, Depression	1	1	1	0	....	0	0	0	....	....	....
Organic Disorder, Alcoholism	1	0	0	0	....	1	0	1	....	....	....
Total	16	4	2	2	....	12	0	12	100	14	88
"Normal" Cases	10	0	0	0	....	10	0	10	100	10	100
Total: Adults	154	65	52	13	80	89	10	79	89	131	84

TABLE III. (*Continued*)

Adolescents											
Neurotics											
Anxiety	4	4	2	2	....	0	0	0	....	....	....
Depression	3	2	2	0	....	1	1	0	....	....	....
Hysteria	1	0	0	0	....	1	0	1	....	....	....
Obsession-Compulsion	3	1	0	1	....	2	0	2	....	....	....
Mixed Neuroses	5	0	0	0	....	5	1	4	....	....	....
Total	16	7	4	3	57	9	2	7	78	11	69
Psychotics											
Preschizophrenia	5	3	2	1	....	2	0	2	....	....	....
Schizophrenia, Paranoid	3	0	0	0	....	3	0	3	....	....	....
Total	8	3	2	1	....	5	0	5	100	7	88
Total: Adolescents	24	10	6	4	60	14	2	12	86	18	75
All Cases											
Neurotics	83	40	30	10	75	43	7	36	84	66	80
Psychotics	69	31	26	5	84	38	5	33	87	59	86
Organics	16	4	2	2	....	12	0	12	100	14	88
"Normal"	10	0	0	0	....	10	0	10	100	10	100
Total	178	75	58	17	77	103	12	91	88	149	84

KEY

S	Suicidal
Non-S	Non-Suicidal
Ror	Rorschach
Cl H	Clinical History
Desig	Designation
Total Agreement	(S (Ror.) = S (Cl H)) + ((Non-S (Ror.) = Non-S (Cl H))
% Total Agreement	S (Cl H) + Non-S (Cl H) in agreement with Ror: S (Ror) + Non-S (Ror.)

TABLE IV. Frequency of Rorschach Configurations* Indicative of Suicidal Trends in Records of Patients Designated Suicidal or Non-Suicidal in Both Rorschach Analyses and Clinical History

	N	Neur.	Anx.	Depr.	Constr.	Confl.	Idea	Agit.	Resig.	Emot.	Withdr.
Suicidal											
Adults	52										
Neurotics	26	24	24	24	15	23	22	6	6	6	15
Psychotics	24	21	23	23	13	23	20	9	10	11	12
Organics	2	2	2	2	1	2	0	2	0	1	1
Adolescents	6										
Neurotics	4	4	4	4	1	4	3	1	1	0	1
Psychotics	2	2	2	2	2	1	2	0	0	1	2
Total	58	53	55	55	32	53	47	18	17	19	31
%		91%	95%	95%	55%	91%	81%	31%	29%	33%	53%
Rank		IIa	Ia	Ib	IV	IIb	III	VII	VIII	VI	V
Non-Suicidal											
Adults	79										
Neurotics	29	29	19	1	9	24	17	0	1	1	3
Psychotics	28	4	13	3	5	10	21	2	2	2	9
Organics	12	9	8	2	9	5	0	2	0	1	4
Normal	10	0	8	3	1	8	6	0	0	1	2
Adolescents	12										
Neurotics	7	6	2	2	5	3	4	0	0	0	1
Psychotics	5	3	3	0	3	1	3	0	0	0	3
Total	91	51	53	11	32	51	51	4	3	5	22
%		56%	58%	12%	35%	56%	56%	4%	3%	5%	24%
Total Cases	149										

* For descriptions of abbreviations used, see page 44.

TABLE V. Comparison of the Proportions of the Suicidal and Non-Suicidal Groups Whose Rorschach Records Show Specific Color and Shading Patterns

		Shock									Σ C wt											
		C			Sh			Both C and Sh			No C			0.5 or less			1.0 or less			2.0 or more		
	N	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D
Adults																						
Neurotic																						
S	26	24	92	....	20	77	....	19	73	....	6	23	....	8	31	....	11	42	....	10	38	....
Non-S	29	26	90	02	21	72	05	21	72	01	3	10	13	3	10	21	8	28	14	18	62	24
Psychotic																						
S	24	15	63	....	16	67	....	11	46	....	6	25	....	7	29	....	10	42	....	12	50	....
Non-S	28	7	28	38*	15	54	13	06	21	25*	2	07	18	2	07	22	4	14	28*	22	79	29*
Organic																						
S	2	1	....	....	1	....	....	1	....	....	0	....	....	0	....	....	1	....	....	1	....	....
Non-S	12	5	....	....	8	....	....	5	....	....	3	....	....	3	....	....	5	....	....	7	....	....
Total																						
S	52	40	77	....	38	73	....	31	60	....	12	23	....	15	29	....	22	42	....	23	44	....
Non-S	69	38	55	22*	44	64	09	21	30	30*	8	12	11	8	12	17*	17	25	17*	47	68	24*
Adolescents																						
Neurotic																						
S	4	4	....	....	4	....	....	4	....	....	2	....	....	2	....	....	3	....	....	0	....	....
Non-S	7	8	....	....	6	....	....	6	....	....	2	....	....	3	....	....	3	....	....	2	....	....
Psychotic																						
S	2	1	....	....	1	....	....	1	....	....	0	....	....	0	....	....	0	....	....	0	....	....
Non-S	5	2	....	....	4	....	....	2	....	....	2	....	....	0	....	....	0	....	....	2	....	....
Total																						
S	6	5	....	....	5	....	....	5	....	....	2	....	....	2	....	....	3	....	....	0	....	....
Non-S	12	10	....	....	10	....	....	8	....	....	4	....	....	3	....	....	3	....	....	4	....	....
All Cases																						
Neurotic																						
S	30	28	93	....	24	80	....	23	77	....	8	27	....	10	33	....	14	47	....	10	30	....
Non-S	36	34	94	01	27	75	05	27	75	02	5	14	13	6	17	16	11	31	16	20	56	26*
Psychotic																						
S	26	16	62	....	17	65	....	12	46	....	6	23	....	7	27	....	10	38	....	12	46	....
Non-S	33	9	27	35*	19	58	07	8	24	22	4	12	11	2	06	21	4	12	26	24	73	27*
Organic																						
S	2	1	....	....	1	....	....	1	....	....	0	....	....	0	....	....	1	....	....	1	....	....
Non-S	12	5	....	....	8	....	....	5	....	....	3	....	....	3	....	....	5	....	....	7	....	....
Total Cases																						
S	58	45	78	....	43	74	....	36	62	....	14	24	....	17	29	....	25	43	....	23	40	....
Non-S	81	48	59	19*	54	67	07	29	36	26*	12	15	09	11	14	15*	20	25	18*	51	63	23*

KEY

S Suicidal
Non-S Non-Suicidal
No. Number of cases
% Percentage of cases
D Difference in percent between groups
* Reliable difference

TABLE V. Comparison of the Proportions of the Suicidal and Non-Suicidal Groups Whose Rorschach Records Show Specific Color and Shading Patterns
(Continued)

		Σ Ch wt									Σ Sh wt					
		No Ch			0.0 —1.5			2.0 or less			2.0 or more			No Sh			1.5 or less			3.0 or more		
	N	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D
Adults																						
Neurotic																						
S	26	5	19	....	12	46	....	19	73	....	11	42	....	0	00	....	1	04	....	19	73	....
Non-S	29	10	34	15	14	48	02	18	62	11	13	45	03	3	10	10	6	21	17	15	52	21
Psychotic																						
S	24	10	42	....	15	63	....	17	71	....	9	38	....	3	13	....	6	25	....	17	71	....
Non-S	28	10	36	06	16	57	06	24	86	15	12	43	05	6	21	08	9	32	07	15	54	17
Organic																						
S	2	2	....	....	0	....	....	0	....	....	0	....	....	0	....	....	2	....	....	0	....	....
Non-S	12	6	....	....	9	....	....	10	....	....	3	....	....	3	....	....	4	....	....	7	....	....
Total																						
S	52	17	33	....	27	52	....	36	69	....	20	38	....	3	06	....	9	17	....	36	69	....
Non-S	69	26	38	05	39	57	04	52	75	06	28	41	03	12	17	09	19	28	11	37	54	15
Adolescents																						
Neurotic																						
S	4	1	....	....	1	....	....	1	....	....	3	....	....	0	....	....	0	....	....	4	....	....
Non-S	7	4	....	....	4	....	....	4	....	....	3	....	....	2	....	....	2	....	....	5	....	....
Psychotic																						
S	2	2	....	....	0	....	....	0	....	....	0	....	....	0	....	....	1	....	....	1	....	....
Non-S	5	3	....	....	1	....	....	1	....	....	1	....	....	0	....	....	1	....	....	3	....	....
Total																						
S	6	3	....	....	1	....	....	1	....	....	3	....	....	0	....	....	1	....	....	5	....	....
Non-S	12	7	....	....	5	....	....	5	....	....	4	....	....	2	....	....	3	....	....	8	....	....
All Cases																						
Neurotic																						
S	30	6	20	....	13	43	....	20	67	....	14	47	....	0	00	....	1	03	....	23	77	....
Non-S	36	14	39	19	18	50	07	22	61	06	11	44	03	5	14	14	8	22	19	20	56	21
Psychotic																						
S	26	12	46	....	15	58	....	17	65	....	9	35	....	3	12	....	7	27	....	18	69	....
Non-S	33	13	39	07	17	52	06	25	76	11	13	39	04	6	18	06	10	30	03	18	55	14
Organic																						
S	2	2	....	....	0	....	....	0	....	....	0	....	....	0	....	....	2	....	....	0	....	....
Non-S	12	6	....	....	9	....	....	10	....	....	3	....	....	3	....	....	4	....	....	7	....	....
Total Cases																						
S	58	20	34	....	28	48	....	37	64	....	23	40	....	3	05	....	10	17	....	41	71	....
Non-S	81	33	41	07	44	54	06	57	70	06	32	40	00	14	17	08	22	27	10	45	56	15

KEY

S	Suicidal	%	Percentage of cases
Non-S	Non-Suicidal	D	Difference in percent between groups
No.	Number of cases	*	Reliable difference

TABLE VI. Comparison of the Proportions of the Suicidal and Non-Suicidal Groups Showing Specific Scores on the Emotional Stability Formula, [FC−(CF+C)] wt.

	N	+ 0.5 — − 0.5 Minus Score						— 2.0 or less			— 3.0 or less		
		No.	%	D	No.	%	D	No.	%	D	No.	%	D
Adults													
Neurotic													
S	26	3	12	....	16	62	....	10	38	....	3	12	....
Non-S	29	6	21	09	25	86	24*	12	41	03	11	38	26*
Psychotic													
S	24	2	08	....	15	63	....	12	50	....	10	42	....
Non-S	28	0	00	08	25	89	26*	21	75	25	17	61	19
Organic													
S	2	0	....	....	2	....	....	2	....	....	0	....	....
Non-S	12	3	....	....	9	....	....	6	....	....	4	....	....
Total													
S	52	5	10	....	33	63	....	24	46	....	13	25	....
Non-S	69	9	13	03	59	86	23*	39	57	11	32	46	21*
Adolescents													
Neurotic													
S	4	0	....	....	1	....	....	1	....	....	1	....	....
Non-S	7	1	....	....	4	....	....	4	....	....	3	....	....
Psychotic													
S	2	0	....	....	2	....	....	2	....	....	2	....	....
Non-S	5	2	....	....	3	....	....	1	....	....	1	....	....
Total													
S	6	0	....	....	3	....	....	3	....	....	3	....	....
Non-S	12	3	....	....	7	....	....	5	....	....	4	....	....
All Cases													
Neurotic													
S	30	3	10	....	17	57	....	11	37	....	4	13	....
Non-S	36	7	19	09	29	81	24*	16	44	07	14	19	26*
Psychotic													
S	26	2	08	....	17	65	....	11	54	....	12	46	....
Non-S	33	3	09	01	28	85	20*	22	67	13	18	55	09
Organic													
S	2	0	....	....	2	....	....	2	....	....	0	....	....
Non-S	12	3	....	....	9	....	....	6	....	....	4	....	....
Total Cases													
S	58	5	09	....	36	62	....	27	47	....	16	28	....
Non-S	81	13	16	07	66	81	19*	44	54	07	36	44	16*

KEY

S Suicidal
Non-S Non-Suicidal
No. Number of cases
% Percentage of cases
D Difference in per cent between groups
* Reliable difference

TABLE VII. Comparison of the Proportions of the Suicidal and Non-Suicidal Groups Showing Specific Scores on the Anxiety-resignation Formula, [F Ch−(Ch F + Ch)] wt.

		Score = + 0.5 — − 0.5			Minus Score			No Score or Minus Score			Score = − 1.0 or less			Score = − 2.0 or less		
	N	No.	%	D	No.	%	D	No.	%	D	No.	%	D	No.	%	D
Adults																
Neurotic																
S	26	5	19	....	13	50	....	18	69	....	14	54	....	6	23	....
Non-S	29	5	17	02	14	48	02	24	83	14	12	41	13	8	28	5
Psychotic																
S	24	6	25	....	10	42	....	20	83	....	7	29	....	4	17	....
Non-S	28	4	14	11	12	43	01	22	79	04	12	43	14	10	36	19
Organic																
S	2	0	....	....	0	....	....	2	....	....	0	....	....	0	....	....
Non-S	12	2	....	....	9	....	....	15	....	....	4	....	....	1	....	....
Total																
S	52	11	21	....	23	44	....	40	77	....	21	40	....	10	19	....
Non-S	69	11	16	05	35	51	07	61	88	11	28	41	01	19	28	09
Adolescents																
Neurotic																
S	4	0	....	....	3	....	....	4	....	....	3	....	....	3	....	....
Non-S	7	1	....	....	2	....	....	6	....	....	2	....	....	2	....	....
Psychotic																
S	2	0	....	....	0	....	....	0	....	....	0	....	....	0	....	....
Non-S	5	1	....	....	2	....	....	5	....	....	1	....	....	1	....	....
Total																
S	6	0	....	....	3	....	....	4	....	....	3	....	....	3	....	....
Non-S	12	2	....	....	4	....	....	11	....	....	3	....	....	3	....	....
All Cases																
Neurotic																
S	30	5	17	....	16	53	....	22	73	....	17	57	....	9	30	....
Non-S	36	6	17	00	16	44	09	30	83	10	14	39	18	10	28	02
Psychotic																
S	26	6	23	....	10	38	....	20	77	....	7	27	....	4	15	....
Non-S	33	6	18	05	14	42	04	27	82	05	13	39	12	11	33	18
Organic																
S	2	0	....	....	0	....	....	2	....	....	0	....	....	0	....	....
Non-S	12	2	....	....	9	....	....	15	....	....	4	....	....	1	....	....
Total Cases																
S	58	11	19	....	26	45	....	44	76	....	24	41	....	13	22	....
Non-S	81	14	17	02	39	48	03	72	89	13*	31	38	03	22	27	05

KEY

S Suicidal
Non-S Non-Suicidal
No. Number of cases
% Percentage of cases
D Difference in per cent between groups
* Reliable difference

TABLE VIII. Comparison of the Proportions of the Suicidal and Non-Suicidal Groups Showing Specific Scores on the General Anxiety Formula, [F Sh − (Sh F + Sh)] wt.

	N	+ 0.5 No.	+ 0.5 %	− 0.5 D	Minus Scores No.	Minus Scores %	Minus Scores D	No Score or Minus No.	No Score or Minus %	No Score or Minus D	— 1.0 or less No.	— 1.0 or less %	— 1.0 or less D	— 2.0 or less No.	— 2.0 or less %	— 2.0 or less D	— 3.0 or less No.	— 3.0 or less %	— 3.0 or less D	+ 1.0 or more No.	+ 1.0 or more %	+ 1.0 or more D	+ 2.0 or more No.	+ 2.0 or more %	+ 2.0 or more D
Adults																									
Neurotic																									
S	26	7	27	....	6	23	....	6	23	....	3	12	....	2	08	....	1	04	....	16	62	....	11	42	....
Non-S	29	9	31	04	10	34	11	13	45	22	7	24	12	5	17	09	3	10	06	10	34	28*	9	31	11
Psychotic																									
S	24	1	04	....	11	46	....	14	58	....	9	38	....	6	25	....	4	17	....	10	42	....	10	42	....
Non-S	28	2	07	03	12	43	03	18	64	06	11	39	01	7	25	00	3	11	06	9	32	10	4	14	28*
Organic																									
S	2	1	....	....	0	....	....	0	....	....	0	....	....	0	....	....	0	....	....	1	....	....	0	....	....
Non-S	12	4	....	....	3	....	....	6	....	....	4	....	....	2	....	....	1	....	....	1	....	....	1	....	....
Total																									
S	52	9	17	....	17	33	....	20	38	....	12	23	....	8	15	....	5	10	....	27	52	....	21	40	....
Non-S	69	15	22	05	25	36	03	37	54	16*	22	32	09	15	22	07	7	10	00	20	29	23*	14	20	20*
Adolescents																									
Neurotic																									
S	4	0	....	....	1	....	....	1	....	....	1	....	....	1	....	....	1	....	....	2	....	....	2	....	....
Non-S	7	0	....	....	3	....	....	5	....	....	2	....	....	2	....	....	2	....	....	3	....	....	2	....	....
Psychotic																									
S	2	1	....	....	1	....	....	2	....	....	1	....	....	0	....	....	0	....	....	0	....	....	0	....	....
Non-S	5	3	....	....	1	....	....	1	....	....	0	....	....	0	....	....	0	....	....	2	....	....	1	....	....
Total																									
S	6	1	....	....	2	....	....	3	....	....	2	....	....	1	....	....	1	....	....	2	....	....	2	....	....
Non-S	12	3	....	....	4	....	....	6	....	....	2	....	....	2	....	....	2	....	....	5	....	....	3	....	....
All Cases																									
Neurotic																									
S	30	7	23	....	7	23	....	7	23	....	4	13	....	3	10	....	2	07	....	18	60	....	13	43	....
Non-S	36	9	25	02	13	36	13	18	50	27	9	25	12	7	19	09	5	14	07	13	36	24*	11	31	12
Psychotic																									
S	26	2	08	....	12	46	....	16	62	....	10	38	....	6	23	....	4	15	....	10	38	....	10	38	....
Non-S	33	5	15	07	13	39	07	19	58	04	11	33	05	7	21	02	3	09	06	11	33	05	5	15	23
Organic																									
S	2	1	....	....	0	....	....	0	....	....	0	....	....	0	....	....	0	....	....	1	....	....	0	....	....
Non-S	12	4	....	....	3	....	....	6	....	....	4	....	....	2	....	....	1	....	....	1	....	....	1	....	....
Total Cases																									
S	58	10	17	....	19	33	....	23	40	....	14	24	....	9	16	....	6	10	....	29	50	....	23	40	....
Non-S	81	18	22	05	29	36	03	43	53	07	24	30	06	16	20	04	9	11	01	25	31	19*	17	21	19*

KEY

S Suicidal
Non-S Non-Suicidal
No. Number of cases
% Percentage of cases
D Difference in per cent between groups
* Reliable difference

GENERAL REVIEWS

Recent Developments in the Field of Projective Techniques *

SAMUEL B. KUTASH, PH.D.**

About fifty years ago William James had the foresight to write, "I cannot but think that the most important step forward that has occurred in psychology . . . is the discovery . . . that . . . there is . . . a set of memories, thoughts, and feelings which are extra-marginal and outside of the primary consciousness altogether, but yet . . . able to reveal their presence by unmistakable signs. I call this the most important step forward because . . . this discovery has revealed to us an entirely unsuspected peculiarity in the constitution of human nature. No other step forward which psychology has made can proffer any such claim . . ." (14) A sure indication of the progress that psychology has made in the past fifty years is that today about fifty years after the birth of clinical psychology, we have in projective techniques the instruments for measuring, appraising, and broadening our understanding of the hitherto hidden aspects of personality referred to by James.

The field of projective techniques is in the midst of a period of rapid expansion and development in all directions. These valuable, analytic, penetrating methods of studying the total personality only a few years ago constituted specialized procedures which only a few individuals were trained to use. Today they occupy a central position among the clinical tools of the psychologist. A clinical psychologist is no longer considered fully equipped for his job unless he has become highly skilled and trained in the use of projective methods. Intensive and extensive courses in projective techniques, formerly given under private auspices in a few isolated centers, are now integral parts of university curricula alongside of experimental psychology, psychology of learning, abnormal psychology, statistics, and the other basic courses that contribute to the training of the psychologist. One of the first questions asked of the applicant for a psychological position in a clinic, hospital, or training center concerns his background and skill in projective methods.

While skilled practitioners have increased arithmetically, the demand for personnel equipped to use projective techniques has increased geometrically. It became necessary for the universities, aided by the large Veterans Administration and United States Public Health program gradually to expand their training facilities

* Published with the permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or the conclusions drawn by the author.

** Chief Clinical Psychologist, V. A. Mental Hygiene Clinic, Newark, N. J. Address delivered at the 1949 Annual Meeting of the New York State Psychological Association, Hunter College, New York.

and curricula. Many psychological faculty members, thoroughly experienced in basic psychological science, turned their attention to projective techniques and exposed themselves to the new methodology with its dynamic hypotheses and personality theories. A host of additional capable psychological scientists made themselves available to the field of projective techniques. University faculty members became research consultants to clinics having active diagnostic and treatment programs. Dynamically oriented practicing clinicians were added to the faculties of the universities to aid in the training of the new psychologists. The previously existing enormous gap between scientific research workers and clinicians engaged in actual practice became narrowed as they began to work together on common problems. The result has been a tremendous impetus to research and progress in the entire field of clinical psychology and specifically in the field of projective techniques. In the new atmosphere of cross-fertilization between research and clinical aims, between experimental research psychologists and analytically oriented practicing clinical psychologists, rapid developments began to take place in the field of projective techniques.

The early workers with Rorschach, T.A.T., and other projective devices developed these instruments to the point where these tests achieved wide recognition as useful, promising tools whose values in the hands of experienced clinicians came to be generally conceded. These methods, which were easily related to the personality theories and hypotheses in vogue among psychologists practicing psychotherapy and psychiatrists, raised the status of the clinical psychologist and gave him a new professional distinction. In scores of mental hygiene clinics, child guidance centers, and psychiatric hospitals, he was installed as an important member of the clinic team with mature responsibilities for psychodiagnosis, psychotherapy, and practical psychodynamic research. This put the psychologist and his projective techniques on the spot. The new responsibilities present a tremendous challenge, and how the psychologist meets this challenge will determine the future of this new profession.

The psychologist is now in the position of being asked to use his newly devised and, as yet, not completely validated methods to provide specific answers to such varied practical problems as what type of emotional or mental disorder a patient is suffering from, what his specific dynamic personality make-up is, how disintegrated his functioning has become, to what degree he can benefit from psychotherapy, what type of therapy is most likely to succeed with him, whether he is apt to respond quickly or slowly or not at all, to various therapeutic approaches, and how his present condition differs from what it was before his symptoms developed. Practical necessities have forced the psychologist to think in psycho-

dynamic terms, to be concerned with problems of psychotherapy, to harness his techniques to therapeutic ends, and to call upon his great heritage of basic psychological science in the attempt to validate and establish the reliability of his instruments.

It has become increasingly necessary to evaluate and reevaluate these new tools, to streamline and adapt them to clinic needs, to validate them in terms of realistic criteria, to devise briefer and yet still effective methods, to establish new hypotheses concerning the meaning of test findings, and to verify existing hypotheses and inferences. As stated by Rotter, in discussing the Rorschach, it has become essential that the psychologist recognize that in this instrument "he does not yet have an objective tool but simply another way of making observations such as he has in the interview, and that he treat his interpretations as hypotheses, not as facts" (29).

It is appropriate at this time to take stock and see how clinical and research psychologists, *together,* have attempted to meet the new responsibilities and the new problems in the field of projective techniques.

One of the most noteworthy developments consists of recent efforts to use projective techniques to improve and evaluate psychotherapeutic efforts. This is an important concern to all psychotherapists and to clinics and hospitals since they exist primarily to treat and cure. Psychologists have attempted to harness projective techniques to therapeutic aims in three ways: by beginning to develop prognostic criteria drawn from projective test findings which could later be used to select patients who might respond best to a particular form of therapy, by evaluating with projective tests the personality changes which take place during the course of a period of psychotherapy, and by attempting to use projective tests more directly in the psychotherapeutic process itself.

Attempts to develop prognostic criteria using projective techniques seem to have been confined, with possibly a few exceptions, to investigations of probable improvement of schizophrenics in response to shock therapy. A relatively early example is the study of Halpern (11) who gave the Rorschach Test to seventeen schizophrenic patients and on the basis of three Rorschach factors was able correctly to predict the response to insulin shock therapy in fourteen of the seventeen cases treated. She used three criteria for prognosis: productivity, emotional range, and capacity for empathy. Piotrowski (25) made a blind analysis of Rorschach records of sixty patients without any previous personal knowledge of them except their age, sex, and the fact that they were diagnosed schizophrenic and were about to undergo shock therapy. On the basis of six prognostic signs he was able to predict correctly improvement in 88.37% of the cases. The significant fact is that five of his six signs were relatively independent of the determinants

and symbols usually employed in scoring the Rorschach. He posed the hypothesis that favorable prognosis seemed related to the presence of emotional regression and lack of intellectual regression. Morris (21) administered the Rorschach to forty-one subjects one week prior to the start of metrazol shock treatment. His comparison of the Rorschach records of those who responded to the treatment and those who did not, revealed that six prognostic signs would have enabled him to predict the outcome of treatment for 78% of the subjects, a gain of 34% over clinical selection alone. Siegel (32), a year ago, investigated the prognostic validity of the Rorschach in a child guidance clinic and found eight significant factors associated with improvement. Four factors were associated with non-improvement. Three of her factors were the same found to be of prognostic significance in Morris's study of psychotic metrazol shock patients.

There is a paucity of studies of prognosis with psychoneurotic patients who constitute the majority of the mental hygiene clinic load. Nevertheless hypotheses are advanced in the literature concerning the possible prognostic value of certain Rorschach determinants. Rorschach himself believed that the quality of kinesthetic responses, human beings seen in movement, were of special prognostic significance. To quote, he stated, "The prognosis is probably more favorable in cases where kinesthesias of extention predominate than in cases in which flexion movements are more numerous" (27). This opinion was concurred in later by Beck.

Rorschach (27), Beck (3), and Klopfer and Kelly (16) viewed the FC response as indicating emotional maturity and the capacity for adapting to the social environment. Beck specifically stated that the FC response is a clue to capacity for improvement in schizophrenia. Recently Beck (2) stressed the prognostic significance of the F plus percent which he interpreted as representing ego strength. Hutt and Shor (13) postulated that the proper employment of "testing the limits" in the Rorschach had special value in predicting the outcome of psychotherapy. All of the above are no more than good hypotheses derived from clinical experience and should be tested out scientifically in controlled experiments. Many more could be cited.

We may inquire why most of the prognostic studies utilizing projective techniques are mainly the Rorschach and why we have not made more progress in this important area. Thurstone's (33) statements that other simpler projective methods and tests should be used to explore the same domain as the Rorschach test is of course very pertinent and will be elaborated upon later. An important obstacle to progress has been the great difficulty in quantifying the Rorschach and the complexity of the test as a controlled research instrument. Perhaps the recent study of Buhler, Buhler,

and Lefever (7) may help matters. They have apparently succeeded, subject to further follow-up studies, in developing the Rorschach into an instrument yielding a quantitative measure which furnishes an index of integration level. While their fourfold classifications of the levels of integration and the accompanying rationale for these are open to question, the Basic Rorschach Score, if it stands up in follow-up reductive studies, may facilitate future research into the problem of prognosis in psychotherapy by providing a unidimensional quantitative scale upon which changes in level of integration can be objectively measured. As an example of how valuable a single quantitative score can be for research purposes we can point to the well-controlled experiment of Ruth Munroe (23) at Sarah Lawrence College. By developing and using her Adjustment Score, she was able to predict with a high degree of accuracy which of the girls would become maladjusted. Only one serious problem out of 43 students was altogether missed. The Bernreuter which was administered to the same subjects in this study missed most of the more seriously maladjusted students.

Let us consider next the attempts that have been made to evaluate personality changes in patients by means of projective techniques administered before and after a period of therapy. Here we find about ten studies in the literature, most of them based upon too few cases and not well enough controlled to be of lasting significance. There are, of course, contradictory findings. Many of the studies again deal with schizophrenics before and after shock treatment, or with patients before and after psychosurgery. An outstanding example of the latter is the Columbia-Greystone topectomy project in which careful control was attempted and negligible changes were found in the patients as far as projective techniques are concerned. Does this mean that the tests did not reflect the clinical improvement noted or does it show that the topectomy operation does not alter the basic personality structure?

The studies in this area have dealt mainly with well-defined medical and surgical types of treatment rather than psychotherapy because of difficulties in getting psychotherapists to define precisely what they are doing, because of variations in applying each type of psychotherapy, and because of problems in devising methods of controlling such variables as the personality and skill of the psychotherapist. One of the few examples of research evaluating changes before and after *psychotherapy* is Muench's "Evaluation of Non-Directive Psychotherapy by Means of the Rorschach and Other Indices" (22). In this study he concluded that eleven of the twelve cases showed Rorschach signs of improvement.

Another obstacle contributing to the dearth of studies evaluating changes resulting from psychotherapy is the fact that again mainly the Rorschach has been used and the difficulties in its

quantification are as yet unresolved. But of more importance is the inability of psychotherapists to agree upon what constitutes improvement in therapy, what criteria could be used to measure success in therapy, and what the goals of therapy are. Psychotherapy is itself a variable which is extremely difficult to control. Of greatest importance are the difficulty in securing control data on spontaneous improvement and the problem of evaluating initial status of the groups to be compared. Daniel Malamud (18) in a recent article stresses the need for measuring the capacity for spontaneous improvement and prognostic outlook if any controlled studies are to be conducted in psychotherapy.

Of greatest interest in therapeutic clinics is the direct use of projective techniques as psychotherapeutic devices. Expressive methods, especially play, art techniques, and drama serve a double purpose. Besides giving insight into pathogenic factors and adjustment mechanisms these techniques release and abreact formerly repressed and pent-up feelings and emotions and this appears to have a therapeutic effect. Play therapy has demonstrated its capacity to bring about therapeutic improvement, through release and desensitization, through the insights developed in play and verbalized by the child and as a result of the relationship with the therapist. Experimenters with projective techniques are in substantial agreement that emotional growth and symptom remission can and often do result, even when the methods are used primarily for diagnostic purposes. One recent projective method, Elkisch's "Scribbling Game" (8) was conceived out of the need for a therapeutic tool with children and when it was attempted with a number of children, its diagnostic possibilities became evident.

Quite a few projective test researchers who are also psychotherapists,—Bellak, for example,—are attempting to use the TAT directly in therapy. He and others have found it effective in undercutting and overcoming resistance when patients who find it difficult to talk about themselves, are asked to discuss the characters with whom they identify in the TAT stores. This frequently leads to emotional release, insight and the possibility of interpreting patterns of behavior and defense mechanisms to the patient. Masserman and Balken (19) consider the TAT of significance in determining the state of the patient's relationship to the therapist and of his reactions to the treatment situation. They also regard it as an aid in securing psychiatric history and in uncovering the salient features of a case.

This paper has dwelt upon the relationship between projective techniques and psychotherapy because if psychologists are to meet the new responsibilities that they are called upon to face in treatment centers for the mentally ill, projective techniques must be made maximally capable of standardization and validation against

meaningful therapeutic criteria. This will require that the problem of psychotherapy itself be tackled scientifically perhaps along the lines suggested by Shaffer (31) in the 1947 Presidential address of the Division of Clinical and Abnormal Psychology of American Psychological Association, or perhaps along entirely new lines which may come from the experience of practicing psychotherapists as they collaborate with objective psychological research workers. When meaningful, definite, precise definitions and hypotheses are developed not only in psychotherapy but in the whole science of personality, upon which psychotherapy depends, then tests, response patterns, and scores will need to be validated against acceptable criteria by finding out whether they discriminate between patients who succeed and fail in therapy, between those who continue and interrupt treatment, between those who have a fairly intact ego and those whose ego may disintegrate under deep therapy, and between those who are likely to form a good therapeutic relationship or transference and those who will not.

Merely establishing diagnostic labels such as simple schizophrenia, obsessive-compulsive neurosis, anxiety state, and the like, and making test diagnosis which have been "validated" only against clinical psychiatric diagnosis which themselves are so challengeable that the psychiatrists are asking for psychological testing to verify them, are not ends in themselves but are the remnants of the old static diagnostic psychiatry which is rapidly being abandoned by the most effective therapists.

The techniques must be able to penetrate *within* each clinical group and to differentiate the patients from one another by other criteria, so that practical recommendations can be made concerning therapy. There are wide individual differences within the neurotic group, for example, and within each sub-group of neurotics who constitute the major portion of the clinic load. Techniques were previously validated mainly by proving that they discriminated between hospitalized schizophrenics, ambulatory neurotics, and so-called normals. These discriminations can in many cases be made easily by competent clinicians by means of brief psychiatric interviews. Such procedure does not necessarily establish the validity of a test in making fine discriminations between border-line cases with mixed symptomology and overlapping diagnoses and these border-line and early cases may be precisely the ones who are most susceptible to therapy because their condition has not become static. Nor does such procedure enable the clinician with confidence to use his tests to answer the practical problems of therapy. Perhaps as psychologists we can contribute most to psychodiagnosis and psychotherapy by helping to set up manageable, verifiable personality hypotheses to prepare the way for the replacement of the old diagnostic nosology.

This leads us to another related problem, that of establishing and verifying experimentally the working hypotheses behind projective techniques. Increasingly, research workers and clinicians are turning their attention to these problems. Their solution depends upon painstaking smaller experiments dealing with only one or two important aspects of a test at any one time. A good number of studies of this nature are beginning to appear in the literature. For example, there have been several attempts to test out the Rorschach hypotheses of color shock. Movement also has been investigated. The Levy Movement Cards (35) make it more feasible to ferret out the true meaning of human movement responses concerning which there have been a number of contradictory theoretical rationales in Rorschach history. As Zubin has pointed out "the other factors of the Rorschach test can be similarly treated in separate tests and similar procedures developed for color, form, and shading responses" (36). A good Rorschach experiment might consist merely of testing out experimentally one simple hypothesis such as that the presence of two or more well-seen good responses on Card IX more or less rules out the possibility of psychosis or that failure to produce a minimal number of good responses on Card X increases greatly the probability that we are dealing with a psychosis. If such a hypothesis were found to stand up, think of the possibilities for screening out the emotionally maladjusted. Incidentally, an important development is that a great number of the new doctoral theses are being planned along such lines.

To return to the suggestions of Thurstone and many others that new and more scientifically manageable projective techniques should be developed and worked on—it is becoming increasingly apparent that this recent trend toward the development of significant useful new projective devices is a highly fruitful development. The virtues of these new methods are that they are briefer, more streamlined, are based upon less complex and more easily tested hypotheses. They tap different layers of the personality and can be used together in batteries which will not be too time-consuming. For many of them decisive experimental designs can be set up to standardize and validate them.

We need only mention the possibilities inherent in the various sentence completion tests such as the Hildreth-Rohde version (26), for which a scoring form and manual are available. A number of variants of this technique such as that of Holsopple and Miale (12) are in progress. Then we have the various graphic projective techniques such as the House-Tree-Person Test of Buck (6), the Figure Drawing Analysis of K. Machover (17), the analysis of handwriting specimens for which several objective interpretive guides are being developed, Naumbergs (24) studies of the free

art expression of behavior problem children and adolescents which is now available in a monograph, the Mira Myokinetic Psychodiagnosis (20) and many other techniques for which Allport and Vernon (1) prepared the way by their studies in expressive movement. We might also include the Bender Visual Motor Gestalt Test (5) and the Ellis Visual Designs Test (34), both of which are examples of revitalization and revamping of an old test. In this case visual memory for designs was used by Binet in his intelligence test and by the Gestaltists in their studies in the field of perception.

While the Rorschach and TAT will always remain extremely useful clinical instruments for individual personality study in situations where time is not at a premium and while they are almost indispensable in particularly complex cases, it is likely that they will be supplanted for wide-scale use in busy clinics by briefer instruments which may still yield dynamic pictures of the total personality. Shortage of personnel, the large numbers of patients, the need for getting the patient into treatment as rapidly as possible, and the resistance of therapists, particularly those of certain orientations to having their patients go through lengthy and repeated testing sessions, all make it imperative that the new projective methods be as brief as possible. If the lengthier procedures are used routinely, only a few testing cases per week could be assigned per psychologist, especially if the battery also includes the Wechsler–Bellevue, Concept Formation Tests and the like. By contrast the psychiatrist or social worker may see as many as seven patients a day for diagnostic or therapeutic purposes. Many clinics are now faced with the choice of whether to withhold psychological service from the majority of patients or abbreviate and streamline the procedures for most patients in order to keep up with the patient load, still reserving the more expensive psychological service for patients who are especially in need of intensive workups. Another consideration is that a substantial part of the psychological work in clinics will for some time be performed by psychological trainees who might more profitably use the less complex techniques in the early stages of their training.

Of paramount importance is the present trend toward the greater use of graphic projective methods as contrasted with those techniques such as the Rorschach and TAT which depend upon the subject's verbalization for securing his appreciations and associations to the stimulus cards. We have learned long ago in our experience with intelligence tests that both verbal and non-verbal performance are important in appraising the total capacity of the individual. Similarly in projective techniques, verbal methods alone do not always suffice in securing a picture of the total personality. Most of the new graphic methods are two-phase techniques that first secure a graphic production from the subject and then get his

verbal associations and interpretations of the content of what he produced. This is true of the Buck H-T-P Technique, Figure Drawing Analysis, and many others. Incidentally, graphic performance was introduced into the Rorschach by Grassi and Levine in their development of the Graphic Rorschach (10). From the point of view of therapy, verbalization often provides a means through which the patient unconsciously censors his responses.

An example of a briefer technique which seems to hold some promise of meeting clinical needs is a new graphomotor projection technique being developed by Gehl and Kutach (9) in which the patient is blind-folded to exclude the factor of visual perception and is asked to produce spontaneous graphic movements for five minutes with a pencil on a sheet of paper. If he produces a structured performance containing words, pictures, letters, form designs, or geometrical figures, he is given another sheet to work on for five more minutes and specifically asked not to make whatever structured material he produced on the first sheet. The major hypothesis which seems to be born out by preliminary results is that the better adjusted individual or the so-called normal is able to produce unstructured smooth rhythmic movements without anxiety whereas the neurotic will attempt to structure the performance in some way. Investigation of the nature of the structuring seems to reveal that it is related to the type of defenses the subject is using to guard against the emergence of his affect. Thus, obsessive-compulsives may make repetitive designs in parallel lines.

If more time is available and if it is desired to tap other layers of the personality, the patient is asked while still blindfolded to report what he was aware of having made and what associations were running through his mind as he was working. After the blindfold is removed he may be asked to look at the sheets and identify and label whatever content he can see or imagine. Thus visual perception and verbalization are introduced. He then may be requested to associate to the content items identified.

Through the use of a celluloid scorer and a record blank a quantative scoring system has been elaborated providing for the scoring of such items as amount of space filled, density of the performance, pencil pressure, number of breaks and pauses, initial reaction time, content identification time, speed of movement, quality of movement, and types of markings.

Now that we have explored some of the recent developments in the field of projective techniques, it is important to discuss briefly what is being done to improve, not the techniques but the projective testers. Large training programs are in full swing. One of the things that has become evident from clinical experience is the extent to which even experienced clinicians project their own

personality trends into their scoring and interpretations of projective techniques and their psychotherapy.

Projective techniques, among many other procedures, are being used in a large scale study on the assessment of clinical psychologists by Kelley and his associates at the University of Michigan. As part of the procedure each type of staff specialist was asked to assess one of the candidates on the basis of technique alone and later overall ratings were made by teams on all available data. It is interesting to note that the correlation between ratings made by the Rorschach alone and the overall final ratings was only .33 while the corresponding figures for the TAT, Sentence Completion, and Bender Gestalt were only .24, .29, and .22 respectively. The authors concluded tentatively that "The Projective Techniques, taken either singly or together, appear to have contributed relatively little to the variance of the final assessment ratings" (15). Of course we do not know yet whether the ratings based on the projective technique alone will predict better or worse than the overall ratings.

A major obstacle to training is now being overcome. Facilities are now generally available where clinical psychological trainees can get supervised practice while they are learning projective techniques. There is still a great need for elementary training manuals and interpretive guides that could be used in the early period of training. Up to 1942, Beck's 1937 Monograph was the only guide to the Rorschach technique in English. Today there are at least six texts that could be used for training and to these have been added a collection of case studies including verbatim test records by Schafer (30) and Rosenzweig's new work on Psychodiagnosis (28). New guides are available for the TAT such as those of Tomkins, Stein, and Bellak. Wolff has a new volume of expressive movement and handwriting analysis. A textbook likely to become standard reading for beginning clinical psychologists is Bell's *Projective Techniques* (4).

In conclusion, it seems evident that projective techniques are here to stay. They have provided new insights into personality and new ingenious ways of investigating, diagnosing, and treating the maladjusted and mentally ill. They have revolutionized the entire field of clinical psychology. They have become part of the fabric out of which a greater and more fruitful psychological science can be built. It is inevitable, now that they are no longer in a position of isolation within psychology, that research, clinical, and academic psychologists together will bring to fruition all of the rich possibilities inherent in projective techniques.

BIBLIOGRAPHY

1. Allport, G. W., and Vernon, P. E. *Studies in Expressive Movement,* New York: Macmillan, 1933.
2. Beck, S. J. Rorschach F Plus and the Ego in Treatment. *American Journal of Orthopsychiatry,* 18, July 1948, 395-401.
3. Beck, S. J. Rorschach's Test. Vol. I and II. New York: Grune and Stratton, 1944.
4. Bell, John E. *Projective Techniques,* Longmans, Green and Co., 1948, 533 pp.
5. Bender, L. A Visual Motor Gestalt Test and Its Clinical Use. *Res. Monogr. Amer. Orthopsychiatric Ass'n,* No. 3, 1938.
6. Buck, J. N. The H-T-P Technique. Qualitative and Quantitative Manual. *Clinical Psychology Monograph No.* 5, October 1948.
7. Buhler, C., Buhler, K., and Lefever, D. W. *Rorschach Standardization Study I: Development of the Basic Rorschach Score with Manual of Directions,* 1948, 199 pp.
8. Elkisch, P. The "Scribbling Game"—a Projective Method. *The Nervous Child,* 7, July 1948, 247-256.
9. Gehl, R. H. and Kutash, S. B. *A New Psychomotor Projection Test,* Mimeographed Manual and Record Blank, 1948.
10. Grassi, J. R. and Levine, K. N. The Graphic Rorschach Manual, *Psychiatric Quarterly,* 17, 1943, 258-81.
11. Halpern, F. Rorschach Interpretation of the Personality Structure of Schizoprenics Who Benefit from Insulin Shock Therapy. *Psychiatric Quarterly,* 14, 1940, 826-33.
12. Holsopple, J. Q. and Miale, F. Mimeographed Edition of the Sentence Completion Test, 1948.
13. Hutt, M. L. and Shor, J. Rationale for Routine Rorschach "Testing the Limits," *Rorschach Research Exchange,* 10, 1946, 70-76.
14. James, William *The Varieties of Religious Experience,* London, Longmans, Green and Company, 1902, p. 233.
15. Kelly, E. L. and Fiske, D. W. *The Selection of Clinical Psychologists,* Ann Arbor, Michigan, December 1948, 56 pp.
16. Klopfer, B. and Kelley, D. M. *The Rorschach Technique,* Yonkers, World Book Co., 1942.
17. Machover, K. *Figure Drawing Analysis,* C. C. Thomas, 1948.
18. Malamud, D. I. Objective Measurement of Clinical Status in Psychopathological Research, *Psychological Bulletin,* 1946, 43, 240-258.
19. Masserman, J. H. and Balken, E. R., The Clinical Applica-

tion of Phantasy Studies, *Journal of Psychology,* 6, 1938, 81-86.

20. Mira, E. Myokinetic Psychodiagnosis: A New Technique for Exploring the Conative Trends of Personality, *Proc. Roy. Soc. Med.,* 33, 1940, 173-94.
21. Morris, W. W. Prognostic Possibilities of the Rorschach Method in Metrozol Therapy, *American Journal of Psychiatry,* 100, 1943, 222-230.
22. Muench, G. A. *An Evaluation of Non-Directive Psychotherapy,* Columbus: Ohio State University, 1945. (Doctoral Thesis).
23. Munroe, R. L. Prediction of the Adjustment and Academic Performance of College Students by a Modification of the Rorschach Method, *Applied Psychology Monographs,* 7, 1945.
24. Naumberg, M. Studies of the "Free" Art Expression of Behavior Problem Children and Adolescent as a Means of Diagnosis and Therapy, *Nervous and Mental Disease, Monograph No.* 71, 1947.
25. Piotrowski, Z. The Rorschach Method as a Prognostic Aid in the Insulin Shock Treatment of Schizophrenics, *Psychiatric Quarterly,* 15, 1941, 807-22.
26. Rohde, A. R. Explorations in Personality by the Sentence Completion Method, *Journal of Applied Psychology,* 30, 1946, 169-81.
27. Rorschach, H. *Psychodiagnostics,* (Trans. by P. Lemkon and B. Kronenburg) Bern: Huber, 1942.
28. Rosenzweig, S. *Psychodiagnosis: An Introduction to Tests in Clinical Psychology,* Grune and Stratton, Inc., 1949, 350 pp.
29. Rotter, J. B. *Journal of Personality,* March 1948, 16: 304.
30. Schafer, R. *The Clinical Application of Psychological Tests,* New York: International Universities Press, 1948, 346 pp.
31. Shaffer, Laurance The Problem of Psychotherapy, *The American Psychologist,* 2, 1947, 459-467.
32. Siegel, M. *American Journal of Orthopsychiatry,* 18, January 1948, 119.
33. Thurstone, L. L. The Rorschach in Psychological Science, *Journal of Abnormal and Social Psychology,* 43, October 1948, 471-475.
34. Woods, L. and Shulman, E. The Ellis Visual Designs Test, *J. Educ. Psychol.* 36, 1940, p. 592.
35. Zubin, J. Manual for Scoring Levy Movement Cards.
36. Zubin, J. Recent Advances in Screening the Emotionally Maladjusted, *Journal of Clinical Psychology,* 4, January 1948, 56-63.

A PROJECTIVE-MOTOR TEST FOR PERSONALITY ANALYSIS *

MAURICE RAPKIN and WILLIAM MARSHALL WHEELER

INTRODUCTION:

Many approaches have been made toward understanding the human personality through motor expression. The present approach attempts to integrate motor expression techniques and association techniques in a series of operations that provide progressively greater pressure on the ego-structure and its defenses. The technique has been organized sufficiently to be useful as a testing device.

The test has several phases. First, the subject is given a word to which he responds by drawing a symbolic representation of the word. Upon completion of the list, he is asked to recall the stimulus word for each symbol, and later to show the association between the symbol and the word. Next, he verbally associates to those original stimulus words which he was unable to recall. Then he is asked to show his position in relation to the symbol, and also to evaluate the symbol in terms of his satisfaction with it, and whether or not it is pleasant to him.

PROJECTIVE-MOTOR TEST ** — INDIVIDUAL FORM X-1

Directions for Administration

MATERIALS NEEDED

Projective-Motor (P-M) Record Blanks
P-M Individual Form X-1, Examiner's Record Sheet
Scripto K-770 mechanical pencil with standard black lead (No. 130 HB)
Scripto K-770 mechanical pencil with standard blue lead (No. 141)
Stop-watch

GENERAL INSTRUCTIONS FOR THE EXAMINER

(The instructions given to the subject are in quotation marks and are in italics. Instructions to the Examiner are in parenthesis.)

(The test makes use of the black pencil in Phases I, II and III. The blue pencil is used for Phases IV and V, VI and VII. If there is a question about erasing suggest that the subject cross out the words with a single line.)

(Time required: 1 to 2 hours.)

---

* Published with the permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

** Copyright 1947 by Maurice Rapkin and William Marshall Wheeler.

ADMINISTRATION

(Say to the subject) *"Fill in the information at the top of the page. S M W D S stands for single, married, widowed, divorced or separated. Circle the one which applies to you."*

PHASE I – DRAWING

"This is a kind of doodle exercise or test. I am going to say a word, and you draw something quickly. Not a picture, but a symbol. For example, suppose I gave you the word 'HOT,' you might make wavy lines. (Demonstrate by waving in the air.) *Or if I said 'DARK,' shaded lines."*

"Work down the left side of the sheet and then the right. Number each box as you go, and circle each number. Any questions?" (Answer questions.) *"Write No. 1, and draw a circle around it."*

(Read the following list of words. Repeat the word, if requested.) Record on the P-M Examiners Form X-1, reaction time (RT); comments (noting the phase at which it occurred – ex: 14 – "boy, this is a dead give-away"); and behavioral indicators, like finger movements.

"No. 1. Heavy"
"No. 2. Kiss"
"Be sure to draw a circle around each number."
"No. 3. Enemy"
"No. 4. Distant"
"Remember, the idea is to make your drawing quickly."
"No. 5. God"
"No. 6. Death"
"No. 7. Hate"
"No. 8. Must"
"No. 9. Joy"
"No. 10. Empty"
"No. 11. Carefree"
"No. 12. Fear"
"No. 13. Narrow"
"No. 14. Love"
"No. 15. Old"
"No. 16. Loud"
"No. 17. Me"
"No. 18. Forgotten"
"No. 19. Desire"
"No. 20. Triumph"
"No. 21. Mother"
"No. 22. Red, r - e - d, red"
"No. 23. Exposed"
"No. 24. Taste"
"No. 25. Father"
"No. 26. Hunger"
"No. 27. Clean"
"No. 28. Alone"
"No. 29. Touch"
"No. 30. Enough"
"No. 31. Pain"
"No. 32. Watching"
"No. 33. Both"
"No. 34. Tight"
"No. 35. Punish"
"No. 36. Private"
"No. 37. Full"
"No. 38. Quick"
"No. 39. Conflict"
"No. 40. Stiff"

PHASE II – RECALL

"Now begin at the beginning and without skipping, write the word I gave you for each drawing. If you're not sure of the word, guess. To show that you're just guessing, make parentheses around it. But write a word in each box."

PHASE III – ASSOCIATION

"Now show the relation between the word and the drawing by writing key words or phrases. Remember I told you 'HOT' might be shown by a wavy line? Well, that might mean 'heat wave' or 'boiling water' or a 'feeling of being hot.' You might write one, two or all three of these in order to explain how the symbol is connected to the word. Any questions?"

(NOTE: If the subject has filled the space so that there is no room to write, he might use the back of the sheet.)

PHASE IV – CORRECTION

(Replace the black pencil with the blue pencil. If necessary, explain that the rest of the test should be done only with the blue pencil.)

PART A – *"Now I'll read the words again. Where the word is different in any way – for example, if you wrote 'watch' instead of 'watching' – write the word I gave you under your word. If you remembered the word correctly check it."*

PART B – *"Now explain the connection between the words you missed and the drawings, as you did before. If the connection is the same, for example, if you remembered the word 'carefree' as 'gay,' and the connection is the same, then you'd write the word 'same'."*

PHASE V – EGO-POSITION

"Now show where you are with respect to your drawing. Let the blue pencil represent you. For example, suppose for the word 'hot,' you drew a wavy line. If you thought of it being hot all around you, you might make a dot to stand for your whole self in the middle of the wave. Or if you were going away from the heat, an arrow to show which way and how far. Or you might make an eye looking at the heat wave from a distance. Or, if you were 'boiling mad' on the inside, you could draw a circle around the wave to show that it was on the inside of you. These are just some of the ways that you might use to show where you were or how you felt when you made your drawing. Any questions about how to do that?"

(If necessary, the following additional demonstration may be given:)

"Suppose for the word 'heavy' you drew a heavy weight. If you felt that you were underneath it, very small, you might make a dot underneath it. Or if you felt like a weight had been lifted from your shoulders, you could draw a stick-man and an arrow to show that the weight had been moved off your shoulders. Or suppose that you felt strong like Hercules, and were holding this big weight up in the air with one powerful hand, you could draw that. Any questions?"

PHASE VI – SELF-ESTEEM

"In this test there are no real standards by which to rate your drawings either 'good' or 'bad' – each one is what it is. What we would like you to do, then, is to make up your own set of standards just for this test and rate the drawings by your own standards. There is absolutely no way of anyone else saying whether these standards are 'good' or 'bad,' 'right' or 'wrong.' First go through and rate the drawings you think are poor. Place a minus sign close to the number of the drawing. Any questions?" (When this is done, say:) *"Now, rate those that are very good. Mark them double plus (++)."* (Then say:) *"And the others which are neither poor nor very good, but just average, make a single plus mark (+). Be sure to rate every box. You may change ratings if you like."*

(If any subjects wish to explain why they rated the way they did, they should be encouraged to do so by writing in the same box, but being careful not to obscure the other material.)

PHASE VII – AFFECTIVE TONE

"This is the last part of the test. Some of the boxes might have had a good feeling to them and others might have suggested something unpleasant. Mark a 'P' close to the number for the pleasant ones and a 'U' for the unpleasant ones. You don't have to mark all of them, only those for which you have some feelings, either pleasant or unpleasant."

PRESENT STATUS OF DEVELOPMENT

The test in both its present and earlier forms has been administered as part of a battery of tests to about 30 normal and institutionalized subjects. Although the tests in the battery included the Rorschach, TAT, and Bender-Gestalt, it was found that the Projective-Motor test contributed to the better understanding of the dynamics, diagnosis and prognosis of the hospitalized cases. A check on the function of the test was made not only as it contributed to the usefulness of the battery, but blind interpretation by the co-author who administered neither the P-M test nor the rest of the battery was consistent with other test and case history data. This, despite the fact that the test is in the early stages of development.

At the present time, the development of quantifiable scoring procedures is under way. A group form of the test has been developed and will be used to secure normative data, such as levels of self-esteem and usual symbols. A manual to assist in interpretation is in preparation.

The test is being presented at this time in the hope that others will be sufficiently interested to use and help develop a technique which has shown promise of being a valuable supplement to present projective batteries.

Communications containing any data, observations or suggestions concerning the test will be gratefully received. (1735 North Pass Avenue, Burbank, California)

PROJECTIVE-MOTOR TEST — INDIVIDUAL FORM X-1
EXAMINER'S RECORD SHEET *

Name..... Date.....

Age..... Sex..... SMWDS Examiner.....

TIME — Phase I — Begun.....Finished.....Total.....

Phase II — Begun.....Finished.....Total.....

PHASE				
IV	VI	VII	RT	
				1. Heavy
				2. Kiss
				3. Enemy
				4. Distant
				5. God
				6. Death
				7. Hate
				8. Must
				9. Joy
				10. Empty
				11. Carefree
				12. Fear
				13. Narrow
				14. Love
				15. Old
				16. Loud
				17. Me
				18. Forgotten
				19. Desire
				20. Triumph
				21. Mother
				22. Red
				23. Exposed
				24. Taste
				25. Father
				26. Hunger
				27. Clean
				28. Alone
				29. Touch
				30. Enough
				31. Pain
				32. Watching
				33. Both
				34. Tight
				35. Punish
				36. Private
				37. Full
				38. Quick
				39. Conflict
				40. Stiff
√	#	P		
×	+	N		
	−	U		

* Copyright 1947 by Maurice Rapkin and William Marshall Wheeler.

ANNOUNCEMENTS

Tenth Annual Meeting of the Society for Projective Techniques and the Rorschach Institute

REPORT OF THE PROGRAM COMMITTEE

The tenth annual meeting of the Society will be held at Denver, Colorado, on September 9th and 10th.

It is expected that the program will consist of one symposium session, one session devoted to individual papers, a business meeting and a dinner meeting. A questionnaire was distributed to members of the Society soliciting suggestions and an expression of preference regarding symposium topics. Tabulations of the returns as of April 4th pointed to a marked interest in a roundtable offering a demonstration of independent case interpretations by specialists in different projective devices, with a critical integration of the independent reports. Fully 75% of first choice votes favored this topic. "Validation Research and Criteria for Validation in Projective Testing" received 13% of the first choices and 75% of the second choices. Other topics trailed still further behind.

Arrangements for the symposium session are well under way. Following are the principal participants

John E. Bell, Chairman
Susan Deri: The Szondi Test
Max Hutt: Bender Gestalt, Mirror Drawing
Roy Schafer: Wechsler-Bellevue, Word Association
Bruno Klopfer: Rorschach
Karen Machover: Figure Drawing
Morris Stein: T.A.T.
Frederick Wyatt: Resume

Deadline for the submission of abstracts of individual papers is extended to June 1st. The Program Committee will consider abstracts from non-members who are sponsored by members of the Society. Papers may report research, present a significant case study or discuss important theoretical issues. Abstracts, not in excess of 300 words, should be submitted in triplicate to the Chairman of the Program Committee.

The scheduling of these two sessions as between the 9th and 10th of September has been deferred pending publication of the schedule of meetings to be sponsored by the Division of Clinical and Abnormal Psychology of the American Psychological Association.

It is expected that the business meeting will be held on the afternoon of Saturday, September 10th, and the dinner meeting on the evening of the same day.

Abstracts of scientific papers, and all inquiries, should be addressed to:

DR. SOLOMON MACHOVER, *Chairman*
Program Committee
Kings County Hospital
606 Winthrop Street
Brooklyn 3, New York

●

SUMMER WORKSHOPS IN PROJECTIVE TECHNIQUES 1949

Conducted by BRUNO KLOPFER AND ASSOCIATES

Eastern Workshops at the Homestead, Crafts, R.F.D. No. 1, Carmel, New York.
Section A — June 6-18
Section B — June 20 - July 2

Western Workshops
Section A — August 8-20, at Claremont Colleges, Claremont, California.
Section B — July 25 - August 6, at the Asilomar Conference Grounds, Pacific Grove, California.

Each workshop begins with the noon meal of the first day and ends with the noon meal of the last day.

Introductory Seminars for Beginners will be provided at Sections A only. No previous training is required for beginners.

Intermediate and Advanced Seminars will be offered at all sections.

Graduate Credit may be established by registering at Claremont Colleges for the Western workshops. Each section carries three points of credit. *Veterans* who register for graduate credit may receive the benefits under the G.I. Bill of Rights, provided they complete their registration by mail *before July 15*.

Residence rates for room and board will be within the range of $5 to $7 per day, according to the available advance information.

Reservations for living accommodations should be made after the application has been accepted. Reservations for the Homestead and Asilomar require a deposit of $20 per person (not refundable except in case of illness). Make checks payable to Homestead or Asilomar, respectively.

Tuition is $50 per section (60 hours of instruction).

Transportation: Special announcements with further details about the various workshops will be sent out with the confirmation of reservations.

Applications to attend the workshops should be sent as soon as possible to Dr. Bruno Klopfer, 480 Redwood Drive, Pasadena 2, California. (Deadline for Eastern workshops, May 15.)

•

Department of Psychology, Western Reserve University
Cleveland 6, Ohio

Workshop I (Psy. 463) — Introduction to the Rorschach Method of Personality Analysis.

One Week, June 13 - June 17
Daily, 9:30 a.m. - 3:30 p.m.

Workshop II (Psy. 464) — Advanced Course in the Interpretation of Rorschach Records and the Clinical Application of the Method.

One Week, June 20 - June 24
Daily, 9:30 a.m. - 3:30 p.m.

Each Workshop: 1 Credit — Tuition, $14.00

•